DEPARTMENT OF ECONOMICS

Working Paper

Industrialization, Exports and the Developmental State in Africa: The Case for Transformation

By

Mwangi wa Gĩthĩnji
Olugbenga Adesida

Working Paper 2011-18

UNIVERSITY OF MASSACHUSETTS AMHERST

Industrialization, Exports and the Developmental State in Africa: A case for Transformation[1]

Mwangi wa Gĩthĩnji[2]

And

Olugbenga Adesida[3]

ABSTRACT: This essay explores the role of the state in promoting exports and industrialization in the quest for transformation of African economies. It does this by exploring the role of trade in African economies followed by a brief look at the East Asian Developmental state. This is followed by an examination of why many African states have failed at being drivers of transformation. It concludes by examining the potential role of African states in a project of transformation as well as the available avenues and resources for transformation.

JEL CODES: O1; O2; O3; N17; N47; N57; N67; N77.
KEYWORDS: Africa; economic development; economic history; exports; industrialization; transformation;

Originally completed in December 2009.

[1] We would like to thank Hasan Tekguc for his research assistance. We would also like to thank Frank Holmquist, and Onchera Maiko for comments to earlier drafts, and Barbara Burungi for comments and support throughout this project.
[2] Department of Economics, University of Massachusetts, Amherst, MA 01002: mwangi@econs.umass.edu
[3] Associate Director, African Leadership Institute (www.alinstitute.org), and Adviser to the Government of Cape Verde, Praia, Cape Verde: oadesida@alinstitute.org

Table of Contents

Acronyms 3

1. Introduction 4

2. Trade and Africa 10

3. The Asian Developmental State and Industrialization 25

4. The African Experience 30

5. Why have many African States failed to remain a key driver of economic transformation? 44

   5.1 Crisis of confidence 44

   5.2 The inherited state 48

   5.3 The outsourcing of development 50

   5.4 Aid as development 52

6. Understanding Development 54

   6.1 Transformation versus growth 54

   6.2 Poverty management and development 56

7. The role of the State in promoting competitiveness via policy and the African experience 60

   7.1 Initial pre-conditions 61

   7.2 The role of the state in Economic activity 64

   7.3 What the state can do to enhance competitiveness and export-led growth 68

   7.4 What Capabilities will African States need to enhance their global competitiveness? 110

8. Conclusions: Towards an African Developmental State 113

REFERENCES 116

Appendix 1 - The Lal-Weiss-Zhang Index 120

Appendix 2. Technological Groupings (Based on Lall 2000) 121

Appendix 3 - African Countries in Sample by year 127

Appendix 4 – Price Indices Top Five Exports by Country 128

Tables

Table 1: Lall Weiss Zhang Index for Products based on Technical Sophistication 2005 12
Table 2: World Exports by Sophistication Group 1965/6-2005/6 16
Table 3: Regional Exports by Sophistication Group 1965/6-2005/6 18
Table 4: Dominant Sectors of African Exports 2005/6 20
Table 5: Index of Educational Spending per Pupil for Selected African Countries 35
Table 6: Foreign Financial Flows into Africa 1997-2007 99

Figures

Figure 1: GDP per Capita Growth 1965-2006 5
Figure 2: GDP per Capita 1965-2006 (US$) 6
Figure 3: Exports and Imports as a Share of GDP 10
Figure 4: Percent of Countries within Income Group by Export Sophistication Level (2005) for Low Technology Exports 14
Figure 5: Percent of Countries within Income Group by Export Sophistication Level (2005) for High Technology Exports 15
Figure 6: Price Indices of Top Five Exports 1965-2005 – Cote D'Ivoire 22
Figure 7: Price Indices of Top Five Exports 1965-2005 – South Korea 23
Figure 8: Government Decision Tree on Types of Ownership. 67

Boxes

Box 1: Cape Verde's Early Steps - What Lessons? 42
Box 2: Have Fast Growers Achieved Transformation? 58
Box 3: Competitiveness Enhancing Institutions - Some Examples 74
Box 4: Linking Human Capital, Technological Development, Entrepreneurship and Employment 81
Box 5: Resources of the African Diaspora - the Case of the USA 84
Box 6: Infrastructure the Achilles heel for Africa's competitiveness 87
Box 7: Developing Small Scale Private Sector-Lessons from the Past 90
Box 8: Facilitating Competitiveness and the Private Sector in Cape Verde 94

Acronyms

AIHTTR	Africa Institute for Higher Technical Training and Research
ARCEDEM	The African Regional Centre for Engineering Design and Manufacturing
ARCT	African Regional Centre for Technology
ARSO	African Organisation for Standardisation
AU	African Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNI	Gross National Income
HDR	Human Development Report
ICT	Information Communication and Technology
IMF	International Monetary Fund
ISI	Import Substituting Industrialization
LPA	Lagos Plan of Action
MDG	Millennium Development Goals
MITI	Ministry of International Trade and Industry
NEPAD	New Partnership for African Development
NIC	Newly Industrializing Country
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
PRSP	Poverty Reduction Strategy Papers
SAP	Structural Adjustment Program
SITC	Standard Industrial and Trade Code
UNCTAD	United Nation Conference on Trade and Development
UNDP	United Nations Development Program
UNECA	United Nations Economic Commission for Africa
VAT	Value Added Tax
WARDA	West African Rice Development Association
WDR	World Development Report

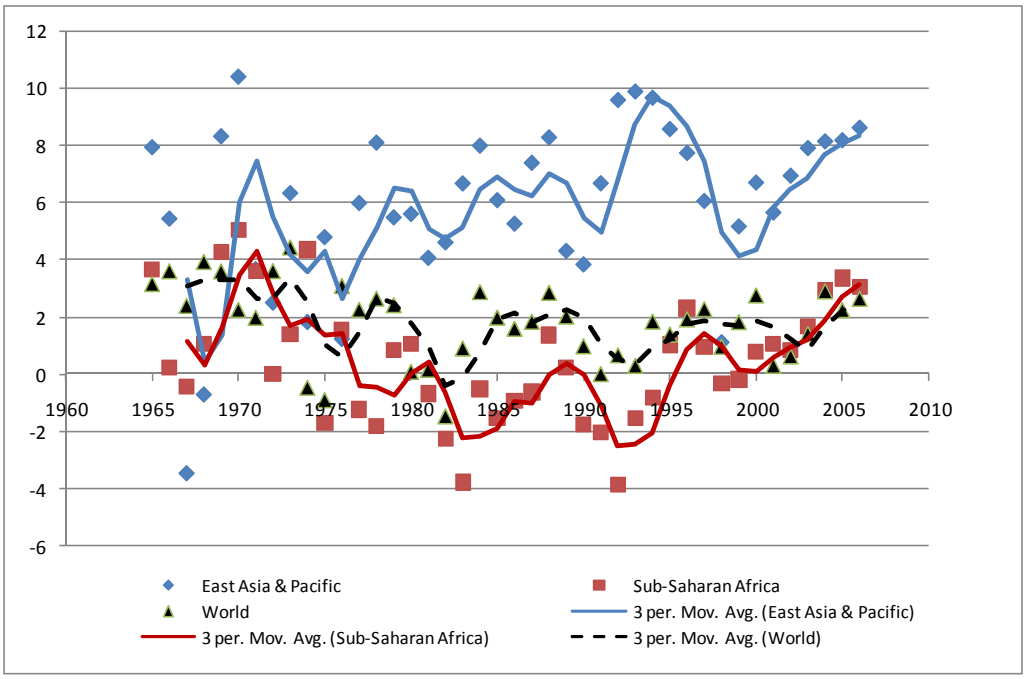
1. Introduction

It has practically become dogma today that the appropriate strategy for development is an export led strategy, although the ongoing economic downturn, particularly in the US and in Western Europe, is calling the strategy into question (UNCTAD 2010). The overwhelming dominance of the idea has been due to the success of particularly South East Asian countries in developing their economies in the last fifty years. In 1965, Japan's Gross National Income (GNI) per capita at US$ 890 (current terms) was only approximately eight times the size of that of most African[4] nations. It was only four times that of Ghana, Zambia, the Congo Democratic Republic and then Rhodesia (Zimbabwe) and only slightly over 1.5 times that of South Africa. Today, the GNI per capita of Japan is eight times that of Mauritius the richest African state in per capita terms and approximately 50 times the size of the average GNI per capita for sub-Saharan African countries. A similar comparison can be made of other Asian and even European countries (e.g. Portugal and Ireland) countries which had income per capita even closer to African levels or at the Japanese level respectively (World Development Indicators).

What explains this huge and increasing gap in income? As is clear from the accompanying charts, growth in Sub Saharan Africa followed a very different trajectory from the rest of the world and particularly from East Asia. In the immediate period after independence from roughly 1966 to 1970 growth in Africa matched East Asian growth both in direction and size, Post 1970 up to 1975, African growth matched East Asian at least in direction, though it was of a smaller magnitude. The gap between East Asian and African growth begins to expand substantially post 1980 after the second oil crisis and the onset of structural adjustment programs in the continent. After this period African growth dips below the world average and remains there consistently until the early years of this new millennium when growth resumes primarily due to high commodity prices and some of the reforms undertaken over the last two decades by most African countries to improve the economic and business environment (McKinsey 2009).

[4] When we say 'Africa" we are referring to Sub-Saharan Africa. This work was initially conceived and written as a background paper for UNDP which puts North Africa in a separate category from Sub-Saharan countries, despite the fact that the only organizations created by Africans that are not regional in scope have always included North Africans.

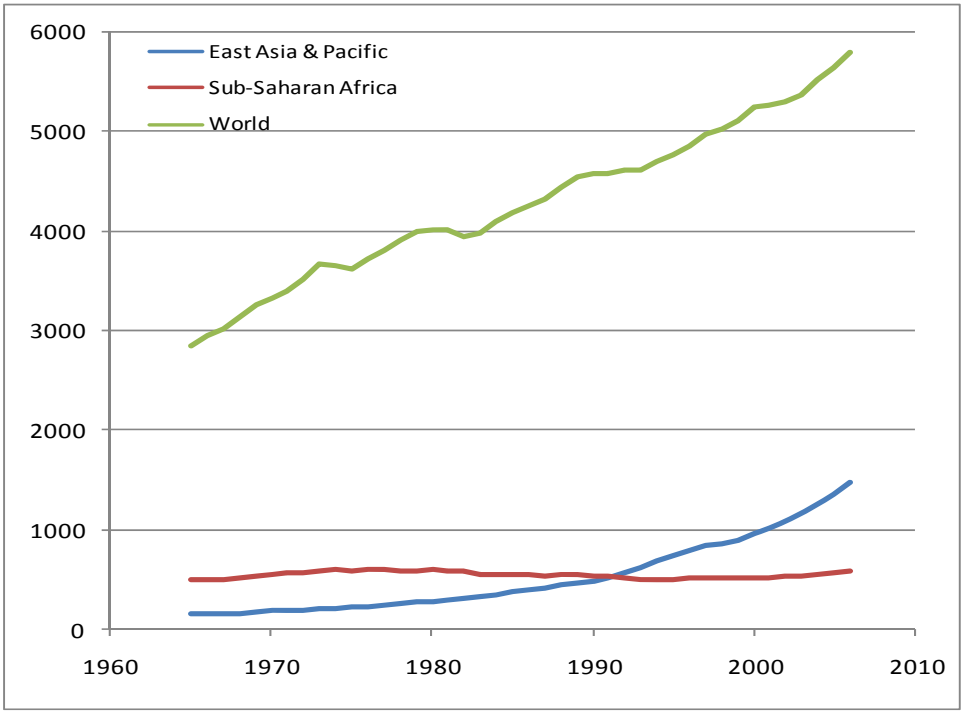
Figure 1: GDP per Capita Growth 1965-2006[5]



The impact of this difference in growth in GDP per capita is brought out quite clearly in Chart 2 which graphs GDP per capita for sub Saharan Africa, East Asia and the world from 1965-2006. A number of crucial differences stand out between the world and Sub Saharan Africa. The first is that despite leveling off at times the trend for world GDP per capita is unambiguously increasing. Second, the rate of growth is relatively high. In the case of East Asia, it has followed the trajectory of the rest of the world with a bit of a lag due to slow growth in China till 1980. Sub Saharan Africa on the other hand has had a completely different trajectory, After an initial slight increase before the crisis of the mid 1970s the trend has been flat or even downward sloping, with the exception of the last four or so years. The impact of this is obvious in the resultant differences in GDP per capital. In 1965, the average income for a sub Saharan African was 17 percent of that of residents of the rest of the world and 339 percent of that of an East Asian resident. It was only in 1990 that the income of the average East Asian matched that of the African resident. Since then the gaps between the two have widened in favour of East Asians residents. Today, a resident of sub Sahara Africa earns on average only 9 percent of the income of the rest of the world and only 39 percent of the income of an East Asian resident.

[5] *World Development Indicators (2008)*

Figure 2: GDP per Capita 1965-2006 (US$)[6]



The common explanation given to the differences in growth is twofold[7]. The first part has been the overwhelming rapid growth of East Asian countries behind an export-led strategy that was first practiced in Japan and over the last forty years has spread to much of Eastern Asia. The second is the dramatic collapse of African growth after the Oil crisis of 1974 and 1981 and the subsequent approach to development in Africa in response to the crisis. Unlike in East Asia where the state continued to play an important role in financing, nurturing and protecting infant industries for the last half of the 20th century the African state was removed from economic production under the dominant neo-liberal ideology, which saw states as being impediments towards growth and development rather than facilitators. While it was the case that some states were impediments this approach amounted to throwing out the baby with the bath water. This approach was ironic at two levels. In the actual history of economic development in the West, the state had played an important role, from protection of industry to financing (Ha Joon Chang 2003). The second irony was that most African countries prior to the most recent four or so years of rapid growth had had their fastest periods of growth during

[6] *World Development Indicators (2008)*

[7] A more complex explanation is that despite the similarities in per capita terms African economies were very different in structure from those of Asian countries in 1965 (Mkandawire and Soludo). For example, despite the similarities in income, many Asian countries at this time already had significant non-resource based exports. In fact, their exports in those areas were larger than the exports of most African countries today in these areas.

the 1960's and the early 1970's (see above) when African governments played a much more important role in the economy (Mkandwire and Soludo 1999).

In this essay, we will examine the role of a developmental state in an export led industrialization process and examine where African countries went wrong and what are possible policies to resuscitate growth in Africa and more importantly to transform growth into development. We would like to emphasize that rapid rates of growth themselves cannot be taken to be synonymous with economic development even when the latter is defined in the narrowest economic terms rather than the broader human development paradigm. So it is not sufficient for us to celebrate the rapid growth in income now being enjoyed by many African countries, which is based on high prices of primary commodities and is eerily similar to the growth experienced in the 1960s and 70s.

Given the impact of the great recession and that the potential long term change in countries are drivers of the global economy, an African export led industrialization strategy will differ in some respects from the Asian strategy that has been held up as an exemplar. In particular, African countries have to note that treating the west as the natural market for goods as they climb up the ladder may not be a viable strategy for two main reasons. The first is that the great recession has led to a significant contraction for demand for goods in the west. This has been accompanied by increasing demand for the protection of workers in the west (particularly in the USA), which in turn may mean that the future flows of goods to the west may be restricted. The second is that there are two giant exporters namely China and India which have huge surpluses of low paid labour in many instances exporting products that either African countries presently export or would desire to export to the west (Gĩthĩnji, 2010a). An African export led industrialization strategy must therefore while learning from the Asian experience take into account this new global context. This will require that African exporters additionally focus on developing new markets for African goods. These will include regional African markets, markets in Asia especially China and India as well as those in Latin America and Russia. African policy makers and entrepreneurs will need to be cognizant that African products that may be competitive in these markets may be very different than those in their traditional European markets.

Since the essential part of development that we describe here is really the industrialization process and the export-led approach is just a means, we should explain why it is the appropriate means. African countries like many other non-industrialized countries attempted some level import substituting industrialization (ISI) post World War II. There are three

specific reasons why export-led industrialization may be more successful than an ISI strategy particularly in the African case. First, because the strategy involves significant state support for industry, it is very possible for the state to be captured by industry and thus allow the African firms to remain forever infant firms dependent on the state. If however the firm is producing for the external markets, competition in the global market allows for benchmarking and gives the state a reference by which to judge the firm. This is not the case in ISI where often the firm was a monopoly firm in a small national economy. Further, the competition spurs dynamism and innovation as the firm attempts to keep its products competitive. The second reason is that the large external markets available for export allow for exploitation of returns to scale at a level that would not be feasible within the context of an ISI strategy in a small economy. Lastly, ISI faces foreign exchange constraints over the long term. In both an ISI strategy and an export-led one, capital goods and technology will need to be imported. Since however ISI earns no foreign exchange other sources of foreign exchange must be found. In the case of an export-led strategy, the commodities produced earn the foreign exchange. This process therefore has an in built mechanism to be sustainable and reproduce itself.

Often ISI is treated as an unmitigated disaster. We are not of this school of thought. In many parts of Asia, ISI laid the foundation for what would be future successful export enterprises (Wade 2004). The key was for policy makers figuring out at what stage was an industry sufficiently robust so that entry into the global market and opening of trade in that sector resulted in the competition strengthening the industry rather than obliterating it. The second was that ISI in the African case was not given sufficient time. Most African countries got their independence in the early to mid 1960s. Imagine that a country getting independence in 1964 decides on an ISI strategy immediately. Assuming a year to put in place a legal and policy framework, companies would begin to draw up plans in 1965. Assuming a rapid formulation of plans and building of factories – say 2-3 years, companies would start producing in 1968. In 1973 they would be hit by the first oil shock and the resultant global slowdown and before the recovery had been completed the second oil shock would hit and be compounded by the extremely contractionary monetary policy in the USA leading to another sharp dip in Global demand. In the first 12 years of existence under the most optimistic timetable for planning and building a company would have had only 5 or so years of what might be considered normal macro-economic conditions to establish itself and begin to make profits. Compare this to the close to twenty years that both Samsung and Toyota went through when they were kept alive by their respective governments (Ha Joon Chang 2007). Today, both these companies are the global leaders in their sector. The lesson we should learn from this is that the creation of large industries is not an overnight operation but requires time. In today's world, where market finance is driven by an Anglo-Saxon model that focuses on short term returns and a product market that is increasingly competitive, governments or specialized industrial/development

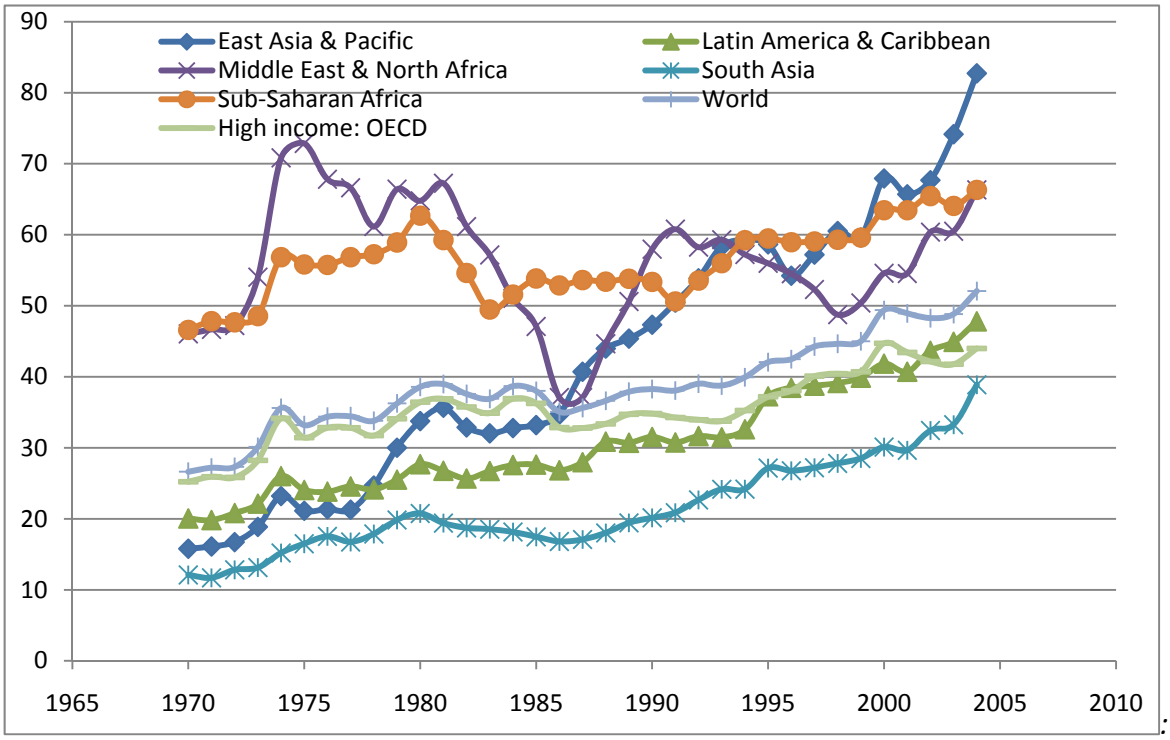
banks will need to figure out strategies that allow for long gestation periods in some industries. The key will be identifying where this is a reasonable strategy and not applying the same rules uniformly across industries.

Let us briefly point out the relationship between industrialization or transformation and sustainable human development. The first thing to note is that the process of industrialization is really a process of technological change. Technological change and human development are mutually reinforcing in a number of ways. First, increases in income that result from industrialization both directly and indirectly increase human opportunities and thus human development. Second, the increases in opportunity and income may result in increased use of technology and farther technological change. Third, the use of technology itself is a representation of the expanded capabilities of a population, and the new knowledge produced is itself an expansion of the opportunity set available to the population (HDR 2001). A society that masters technology also increases its capacity to respond to shocks and in the process makes itself more resilient and sustainable.

2. Trade and Africa

Contrary to popular opinion that African countries are not open to trade, African countries are amongst the most trade intensive economies in the world. The existing economies of African countries were set up during the colonial era with the express idea of providing markets for the European colonial powers and raw materials for their industry. That structure has not changed. The fact that African economies have been heavily dependent on trade is brought out clearly in the chart below.

Figure 3: Exports and Imports as a Share of GDP[8]



The chart portrays trade measured by the sum of imports and exports for the period 1970-2005 for all developing regions of the world, plus the OECD countries. In the period 1970 to 1992, only the countries of the Middle East and North Africa, whose economies are heavily dependent on the exports of oil and natural gas matched the degree of trade exhibited by African economies. The leading export led model countries of East Asia by this measure, only began to match Sub Saharan Africa in the early 1990's and did not surpass it till the late 1990's. Further despite the low growth of GDP in the 1980 to 1995 period Africa's trade held steady or

[8] *World Development Indicators as cited in Githinji (2007)*

continued to grow after a drop due to the oil crisis that was experienced worldwide. In fact, from 1970, the average as a share of GDP has grown from around 48 percent to about 67 percent. For the 44 countries that data is available in 2005, imports plus exports account for a range from a "low" of 40 percent of GDP to a high of 85 percent of GDP. During this entire period for most countries, although imports have tended to be larger than exports, the magnitude of trade has really been driven by both for most African countries. For example, in value terms in the period 1993 to 2006 the unweighted average for imports as a share of GDP ran from 39% to 47% while exports ranged from 27 to 41 per cent. (Githinji 2007).

If Sub Saharan African countries trade so heavily, why is there is an assumption that they are not heavy traders. The answer lies in the fact that analysts often conflate the fact that Africa accounts for a small part of world trade (given that its economies are small) with the assumption that African countries are not engaged heavily in trade. The point we want to make here is that contrary to the assumption that Africa was not trading enough, which led to increased liberalization at the behest of the IMF and World Bank of African markets, Africa has always traded heavily and engaged substantially in exports but with very little to show for it. The question is why? The answer we believe does not lie in the amount of trade but rather the pattern of trade. African countries in their trade were very much like Portugal in its early trade with England (as suggested by David Ricardo in his classic on comparative advantage) depended on their static comparative advantage, exporting primary tropical goods and minerals while importing finished goods. The result is similar. Portugal fell behind England which became an exporter of industrial products while Portugal remained an exporter of agricultural products up to the 1970s. In the African case, most African countries have remained producers and exporters of primary goods and importers of finished industrial goods. The result of this has been the lack of development of African economies.

Below we examine the pattern of exports internationally since 1965. To do this, we break up all commodities trade as reported at the 3 digit SITC (rev. 1) level into ten groups that are based on the degree of technology embodied in the production of the good. We use rev. 1 data which allows us to go back to 1965. These groups are based on the work of Sanjaya Lall (2000). Why is it important to analyse exports based on the technological structure. The first reason is that exports that are more technologically intensive command higher prices, and as we shall see have expanding markets as world income increases. The higher prices are a reflection of the technology embodied in the goods and the higher human capital required. The returns to the higher human capital is higher income and thus potentially higher levels of human development. When these higher wages are dominant in a society they reflect the fact that the society has transformed from a primary producing country, where wages are anchored by a low

production subsistence sector, to a higher technology industrial society. A second reason is that the production of the technologically sophisticated product is an expression of the use of the human capabilities that arise from the capacity that has been created via education and learning by doing. The aim of human development is to enhance capabilities. Creation of the products is an example of the use of human capabilities.

Table 1: Lall Weiss Zhang Index for Products based on Technical Sophistication 2005[9]

Group	Name/Description	Lall Weiss Zhang (LWZ) Sophistication Index	Average Per Capita Income of Countries exporting Products within group (US$)
1	Primary Products	0.47	22576
2	Resource Based Manufacture Agriculture	0.52	24543
3	Resource Based Manufacture Other *(mainly minerals*)	0.55	25767
4	Textiles Garments and Footwear	0.35	18679
5	Other Low Tech	0.52	24597
6	Medium Tech Automotive	0.63	28255
7	Medium Tech Process Industries *(such as synthetic fibers, plastics, paints etc).*	0.55	25697
8	Medium Tech engineering industries *(such as engines, industrial machinery etc.)*	0.67	29911
9	High Technology Manufactures (*Electronics and Electrical Products)*	0.51	24248
10	Other High Technology (*Pharmaceuticals, aerospace, optical measuring instruments)*	0.78	33776

Sanjay Lall (2000) divides all exports into ten groups based on technology (See Table 1 above and the appendix for a full listing of the commodities). The first four are groups that have relative low technological intensity. The first three are heavily pre-determined by the resources

[9] *Comtrade Database*

that a country naturally has, whether it be minerals or tropical agriculture. Group 1 involves the simple production of these goods e.g. the mining of minerals or the growing of crops. Groups 2 and 3 involve basic processing of the product. In these groups often the products go through some basic processing that allows them to become the inputs in a further process of production. There are some more skill intensive processes within this group but often the location of this basic processing is determined not so much by skills but rather the ready availability of the primary products themselves. Group 4 is slightly less dependent on presence of raw material and more so, on the availability of large numbers of low skilled workers. This group includes all textiles, leather and footwear industry. Group 5 is other low tech industry such as furniture, plastic products, and toys. Group 6 through 8 are considered medium technology industries. Group 6 is the cluster of industries around automobile production, while Group 7 is heavily dominated by chemical industries. Group 8 is non automotive engineering. The last two groups are the high technology sector. Group 9 is electrical and electronic appliances, while Group 10 is dominated by pharmaceuticals and the aerospace industry.

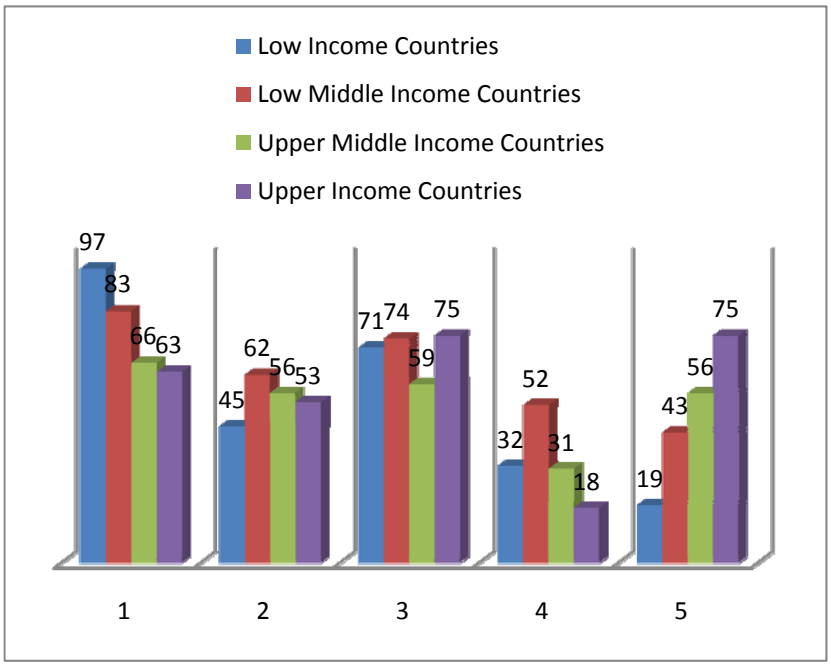
To give a feeling of how these groups compare we have also calculated the Sophistication index designed by Lall Weiss and Zhang (2006)[10]. This is a simple index that represents the average income of the producing countries of each of the goods normalized to run between 0 and 1. The goods at the three level SITC code that is on average produced by mostly the poorest countries gets a ranking closer to zero, while those that are produced by the richest countries gets a ranking closer to one. As one would expect the first five groups on average have a lower index than the last five. Group 2 and 3 because they are location plus technology based tend to be associated with slightly higher incomes than group 1 and 4. This is because the occurrence of natural resources is not determined by technology but rather geography. Rich countries that have them will continue mining them as well as processing them. We should note that Group 9 because of the continual breakdown in electronic production which allows for more labour intensive, less skills intensive production of components has a lower index than one might expect. Along with the index we present the associated average income of the countries that export within this group. Because international trade is dominated by richer countries the averages are all rather high although those from Group 1 to 5 which run from US$ 18679 to US$ 25767 are on average lower than those from Group which range from US$ 24 248 to US$33776. Countries that specialize in production in the sectors with lowest income tend to produce items that on average are more labour intensive and less skills intensive and thus command lower prices per labour hour on the international market. The process of development/industrialisation is essentially one of moving from producing and exporting labour

[10] See full description in the appendix.

intensive commodities (Groups 1-5) to producing and exporting skills intensive goods (group 6-10).

To illustrate the relationship between the ten groups and income a little more clearly we present below two charts that capture the relationship. We have divided countries into the standard income groupings used by the World Bank, namely Low income, Lower Middle income, Upper Middle income and High Income countries. For each commodity group, we have classified a country as an exporter only if its exports are at least 5% of its total trade. We do this in order to capture meaningful exports. If we did not use such a criteria then most countries produce and export at least minute quantities within each category and the relationship would not be so easily presented with a simple chart as below.

Figure 4: Percent of Countries within Income Group by Export Sophistication Level (2005) for Low Technology Exports[11]



1='Primary Products' 2='Resource Based Manufacture Agriculture' 3='Resource Based Manufacture Other'4= 'Textile Garments & Footwear' 5='Other Low Tech.

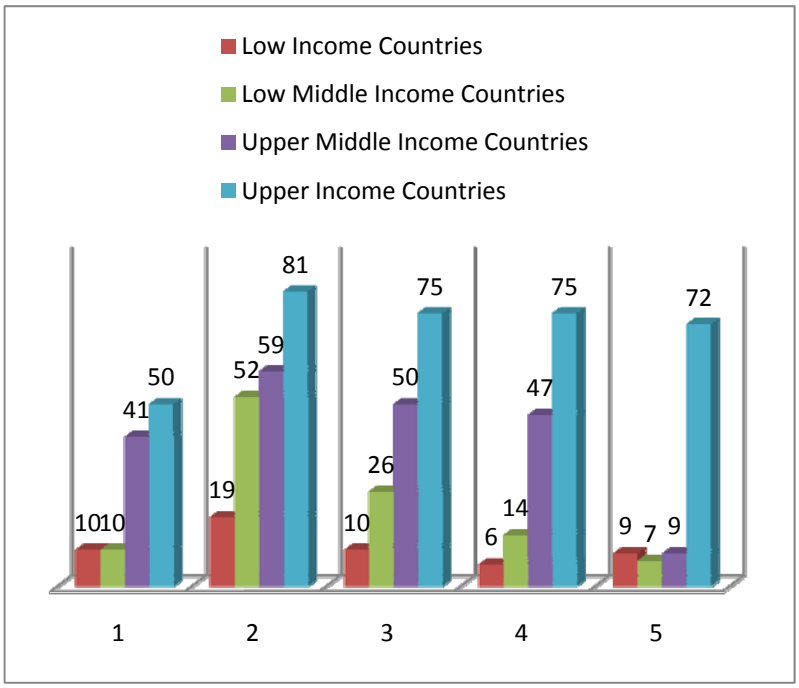
In chart 4, we present the data for the first five categories which tend to be more labour intensive. As is obvious, the percentage of low income countries that produce and export in categories 1-3 is extremely high ranging from 45 percent to 97 percent of the countries within the group. As skills become more important in Categories 4 and 5, this drops off to between 19

[11] Gĩthĩnji (2010a)

and 32 percent. It is also the case that within these categories most countries regardless of income are well represented. However, we note that for the two highest income groups their representation in textiles and footwear which are at the lowest level of skill intensity and not geography dependant, is the lowest or near lowest.

In chart 5, we present the distribution across the five more technology intensive groups. For poor countries, the trend of lower representation on average continues with countries participating in these industries being only between 6 to 19 percent of the group. The two highest income groups are well represented in all the groups with the exception of the last category where only the richest countries are well represented.

Figure 5: Percent of Countries within Income Group by Export Sophistication Level (2005) for High Technology Exports[12]



1='Medium Tech-Auto' 2='Medium Tech Process'3= 'Medium Tech Engineering' 4='High Tech Electric' 5='High Tech other'

In the following section, we analyse what has occurred in world exports by value between 1965/66 and 2005/6 based on these categories. In the table below, we present data for the world. In order to ensure as broad coverage of countries as possible because many countries do not report data for all years we averaged two years. In the cases where data was only

[12] Gĩthĩnji (2010a)

available for one year that is what is reported. The data is not a true panel because we use whatever countries are available for each year but given the relatively wide representation for each year we believe that the trends are fairly stable[13]. This first table on the world gives us some idea of the nature of total world exports and how they have changed over time. A number of salient issues are immediately obvious. First, the nature of trade has changed significantly over the period. In 1965/66, 60 percent of world exports were in the five lowest technology categories. By 2005/6, most of world exports, over 55 percent, were in the top five categories. What does this mean? As world trade increased in value terms, the categories that included more sophisticated technology grew at a much faster rate than those with lower technology. It would follow then that those countries that specialized in the higher technology products did better than those that specialized in primary production.

Table 2: World Exports by Sophistication Group 1965/6-2005/6[14]

	1965/66	1970/71	1980/81	1990/91	2000/01	2005/06
Primary Products	25.59	21.3	28.37	14.08	13.92	15.7
Res. Based Man. Agro	10.66	9.54	7.48	6.99	5.77	5.31
Res.Based Man.other	9.72	9.44	9.62	6.88	6.91	8.8
Textile Garments & Ftwear	5.98	6.05	4.63	7.16	6.63	5.4
Other Low Tech.	7.91	8.76	7.46	9.87	9.25	9.37
Medium Tech-Auto	6.01	8.28	7.55	10.48	9.29	8.94
Medium Tech Process	10.31	10.16	9.45	10.86	9.66	10.24
Medium Tech Engineering	13.06	13.64	11.64	13.66	11.26	10.81
High Tech Electric	5.52	6.82	7.63	12.58	19.67	17.3
High Tech other	5.22	6.01	6.16	7.43	7.64	8.13

Particularly important with respect to the changes in the export trade, is the fact that the greatest reduction was in the primary product sector, which went from being the largest sector by far in 1965 to the second largest in 2005/6 when it was only 16 percent of total exports down from 26 percent in 1965. The period of greatest loss is post-1980 when the share drops from 28 percent. This is the period during which African countries were advised to follow their natural comparative advantage and increased their dependency on their traditional exports. While the other four low tech sector's lose some share, the extent of loss is not as large with the exception of Agricultural resource based manufacturing which falls over 50 percent in share terms. In terms of growth, at the world wide level, the biggest gainer is the High Tech Electric

[13] See full list in the appendix.
[14] Comtrade Database and World Development Indicators (2008)

group which in 1965 was the smallest group with under 6 percent of the share of total world exports, by 2000 it was the largest with over 17 percent of the total share of exports. In fact the fall in share for primary products and the increase in share for the high tech electrical goods completely dominate any other trends at the world level.

Let us compare how Sub Saharan African and South East Asian countries' exports changed during this period[15]. We also present data for Africa including South Africa (captured as the South African Customs union before 2000). This is because South Africa represents a very large proportion of African trade and it has had a distinctly different industrial history to other African countries. As is obvious from the table, while there was some reduction in the share of primary products, Africa has remained a primary exporter. In 1965/66 77 percent of Africa's exports were primary products compared to their 25 percent world share and the 24 percent share for the South East Asian countries. Further some of the areas where African countries have increased exports such as resource based manufacturing (other), where Africa countries increased the proportion from around 7 percent to over 20 percent (regardless of whether South Africa is included), have also seen a fall in their world share of exports or remained fairly level.

In the areas that have seen the largest increase the share of African exports remains extremely small often under 2 percent of trade when South Africa is included and well below 1 percent without South Africa. Contrast this with the story for the South East Asian countries. While these countries are initially heavily dependent on primary production and basic resource based manufacturing (first four groups) from 1965/66 this dependence is rapidly reduced from 82 percent to 64 percent in 1980 to 26 percent in 2005/6. This is now lower than the share of this group at the world level. These countries also decreased the amount of minimally processed manufactured exports which are dependent on the availability of raw materials and cheap labour. Agro processed exports fell to 4.5 percent from 30.6 percent. While other resource based manufactures fell by over 35 points and in textiles by over 50 points in share. At the other end, these countries tremendously increased their share in the High Tech Electric Industry where exports moved from being under 3 percent to 38 percent. This group of countries also saw a substantial increase in exports in the medium tech engineering and medium tech process industries, where exports increased from below 3 percent to over 8 percent of total exports.

[15] A full listing of countries for each year is found in the appendix. For South East Asia the countries used are South Korea, Hong Kong, Indonesia, Malaysia, Singapore and Thailand.

Table 3: Regional Exports by Sophistication Group 1965/6-2005/6[16]

AFRICA (not including SACU)	1965/66	1970/71	1980/81	1990/91	2000/01	2005/06
Primary Products	77.41	78.02	85.33	84.79	71.81	63.17
Res. Based Man. Agro	13.44	10.35	4.78	4.93	5.43	6.14
Res.Based Man.other	7.59	9.37	7.88	2.61	13.74	20.16
Textile Garments & Ftwear	0.41	0.69	0.63	3.73	4.48	3
Other Low Tech.	0.28	0.35	0.36	0.93	1.31	1.53
Medium Tech-Auto	0.14	0.14	0.15	0.25	0.35	0.7
Medium Tech Process	0.17	0.35	0.35	1.89	1.72	1.94
Medium Tech Engineering	0.26	0.34	0.21	0.4	0.56	1.98
High Tech Electric	0.1	0.09	0.1	0.18	0.23	0.69
High Tech other	0.19	0.29	0.21	0.3	0.37	0.71

AFRICA	1965/66	1970/71	1980/81	1990/91	2000/01	2005/06
Primary Products	77.41	78.02	72.03	65.32	52.92	48.68
Res. Based Man. Agro	13.44	10.35	6.12	6.96	6.68	6.27
Res.Based Man.other	7.59	9.37	14.14	9.7	19.72	21.18
Textile Garments & Ftwear	0.41	0.69	1	3.63	3.86	2.29
Other Low Tech.	0.28	0.35	2.14	4.31	3.36	3.83
Medium Tech-Auto	0.14	0.14	0.35	1.48	2.41	3.8
Medium Tech Process	0.17	0.35	2.81	5.49	6.21	6.96
Medium Tech Engineering	0.26	0.34	0.66	1.59	2.54	4.12
High Tech Electric	0.1	0.09	0.28	0.65	1.08	1.32
High Tech other	0.19	0.29	0.46	0.88	1.22	1.56

SOUTH EAST ASIA NICS	1965/66	1970/71	1980/81	1990/91	2000/01	2005/06
Primary Products	23.91	22.59	29.3	11.18	6.71	6.44
Res. Based Man. Agro	30.63	26.59	13.54	7.79	4.53	4.51
Res.Based Man.other	12.09	10.56	10.75	7.03	5.68	8.02
Textile Garments & Ftwear	15.76	18.72	14.93	18.91	11.3	7.02
Other Low Tech.	7.79	9.73	7.75	12.21	10.95	9.14
Medium Tech-Auto	1.43	0.7	0.75	1.44	2.99	4.63
Medium Tech Process	2.73	2.43	5.26	8.75	8.44	9.38
Medium Tech Engineering	2.23	2.34	6.31	8.1	7.75	8.14
High Tech Electric	2.14	4.81	9.6	22.28	38.21	38.13
High Tech other	1.31	1.52	1.8	2.33	3.43	4.59

[16] Comtrade Database

The basic story is quite clear. Africa whether by choice or circumstance has specialized and is over represented in the exports of the lower technologically intensive industries which apart from having lower value is also losing market share. When you do not include South Africa, less than 6 percent of African exports were in the top five high technology categories. On the other hand the NICs have specialized in growth sectors which also have higher value and have reduced their share of primary products. This transformation of the NICs is responsible for the higher levels of income and human development that these countries now enjoy.

While Africa as a whole has done rather poorly, are there countries that have done well. In the table below, we present data for 2005/6 for Sub-Saharan African countries. Our aim here is to examine the following questions. What is the basic structure of exports of different countries? Are there countries that have managed to move out of the low tech half of our classification? Are there countries that have a diversified export economy?

In the table below, we present three basic pieces of information. The first two columns represent the share of the two largest export sectors (based on our earlier ten groups) for African countries. The third column is the sum of the shares, while columns 4 and 5 give us information on which are the largest two sectors for the specific African country. The sixth column is the country's share of total African exports. The last three columns give us some basic information on how the leading export sector of a country has changed since either 1970 or 1980 depending on country. Column 7 is the share of the largest sector in 1970 or 80, while the next column gives us information on how much change has occurred in that sector's share of imports between 1970 or 80 to 2005/6. The last column gives us information on whether there has been a change in the largest sector from what it was in 1970 or 80. The countries have been sorted based on the proportion of total exports that the two largest sectors represent. This can be used as a crude measure of how diverse are the exports of a specific country.

Table 4: Dominant Sectors of African Exports 2005/6[17]

	Share of Largest Sector	Share of Second Largest Sector	Total Share of Largest two sectors	Largest Sector	Second Largest sector	Share of Total African Trade	Share of Largest Sector in 1970 or 1980	Change in Share	Change in Sector
Mauritania	73	27	100	3	1	0.4	83	-10	No
Nigeria+	98	2	100	1	8	21.0	95	3	No
Sudan	89	9	98	3	1	3.7	96		1
Sao Tome and Principe	91	5	96	1	2	<.01			
Ethiopia	90	5	95	1	4	0.7	95	-5	No
Seychelles	55	40	95	1	3	0.3	95	-40	No
Gabon	84	10	94	1	2	4.3	44	40	No
Botswana	88	4	92	3	4	3.4			
Zambia	74	17	91	1	3	2.1	96	-22	No
Mozambique	58	32	90	1	3	1.4			
Rwanda	51	39	90	1	3	0.1			
Mali	85	3	88	1	10	0.3	85		No
Benin*	71	15	86	1	2	0.2	42	29	No
Malawi	76	10	86	1	2	0.5	88	-12	No
Namibia	44	42	86	1	3	2.1			
Cameroon	70	15	85	1	3	2.2	71	-1	No
Gambia	58	27	85	1	2	0.0	64	-6	No
Tanzania*	78	6	84	1	2	0.8	75	3	No
Ghana	54	27	81	1	2	2.8	87	-33	No
Niger	57	23	80	3	1	0.2	78		1
Central African Republic	43	36	79	2	3	0.1	49	-6	No
Uganda	67	7	74	1	3	0.6			
Madagascar	36	34	70	1	4	0.6	79	-43	No
Cote d'Ivoire	47	22	69	1	2	5.9	66	-19	No
Burundi	45	20	65	1	6	0.1			
Swaziland	42	22	64	3	2	1.2			
Zimbabwe	42	20	62	1	3	0.9			
Cape Verde*	48	13	61	3	7	0.1	95	-47	No
Togo	32	29	61	1	3	0.3			
Kenya*	43	17	60	1	3	2.7	46	-3	No
Senegal	32	27	59	1	3	1.1	46	-14	No
South Africa	25	23	48	1	3	38.4			No

Key for Sector: T 1='Primary Products' 2='Resource Based Manufacture Agriculture' 3='Resource Based Manufacture Other'4= 'Textile Garments & Footwear' 5='Other Low Tech.' 6='Medium Tech-Auto' 7='Medium Tech Process'8= 'Medium Tech Engineering' 9='High Tech Electric' 10='High Tech other'.

*Base data from 1980

+Most recent data is 2003

[17] Comtrade Database

The most striking feature is how dependent countries are on just the top two sectors. Over 30 percent of the countries depend 90 percent or more on just the top two sectors, with half of these countries being 85 percent or more dependent on the top sector alone. Only 3 countries are dependent at less than 60 percent on two sectors and only 12 out 33 countries depend less than 50 percent on any one sector. The information presented also underscores the degree to which individual African countries are dependant only on primary exports with little to no processing. Only 20 percent of the countries in our sample are not dependent on basic non processed primary products as their largest sector. Despite the importance of agriculture to most non mineral exporters only one country, namely the Central African Republic, had Agro processing as the lead sector. Even in this case because the exports are so small that this rather than any policy may explain this case. None of the relatively successful African agricultural exporters such as Cote d'Ivoire, Kenya, and Malawi have large processed exports relative to the unprocessed exports. The same can be said of mineral processing. In fact, of all the big mineral producers in Africa only Botswana and Sudan have large processing exports relative to the exports of primary products. Lastly, African exports are dominated by the two largest economies Nigeria and South Africa which together represent over 65 percent of all African exports.

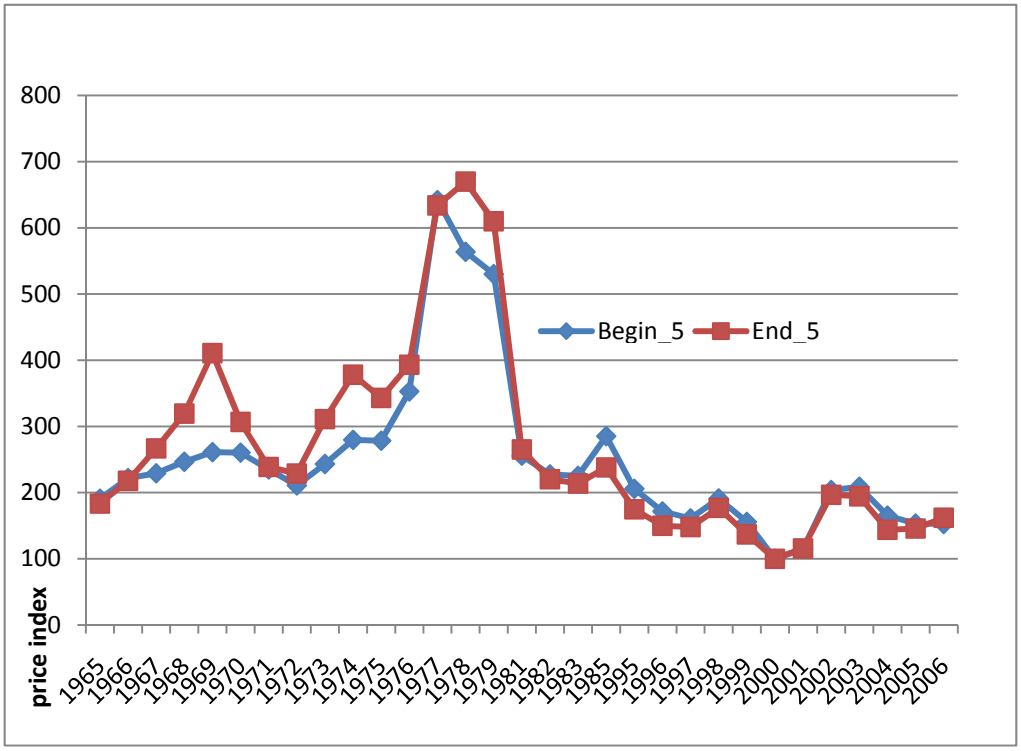
The absence of any significant high technology sectors is clear from the data presented. Only four countries count a high technology category as among their largest two sectors. In the case of two of these countries this sector is extremely small (less than 3% of total exports) and is completely dominated by the larger sector which in both cases accounts for over 85 percent of exports. Only Burundi and Cape Verde with 20 and 13 percent exports sectors can claim high technology sectors as leading export sectors. We should note that a couple of other countries have high technology exports that account for more than 10 percent of exports but these do not rival their traditional exports. These include Cote d'Ivoire, Kenya, Mauritius, Senegal, South Africa, Swaziland, and Uganda.

Our last three columns allow us to discuss some of the changes that may have occurred over the last thirty to forty years in exports. We are able to obtain information for 21 countries. Out of those 21 countries in 18 countries, the leading export sector in 1970 or 1980 is still the leading export sector today. In four cases, the countries have become even more dependent on this sector than they were forty years ago. In the two cases where we have a change rather than countries becoming more sophisticated in exports they have become less. Moving from being mainly exporters of resource based manufactures to becoming primary goods exporters. There is however some good news. In 4 cases, the contributions of this sector relative to others

have diminished significantly, over 33 share points and in another 5 cases it has diminished by at least 10 share points.

In order to capture some of the potential price effects on African exports we have created indices from the top five commodities for various African countries for which long term data is available. We compare these to the same indices for South Korea and Malaysia. The charts depicting these trends are found in Appendix 3, with the exception of Cote D'Ivoire and South Korea which are presented below to illustrate the text. Because there is some change in what the top five commodities were over time we calculate two indices one for the top five commodities at the beginning of the period (Begin_5) and the top 5 commodities at the end of the period (End_5)

Figure 6: Price Indices of Top Five Exports 1965-2005 – Cote D'Ivoire[18]

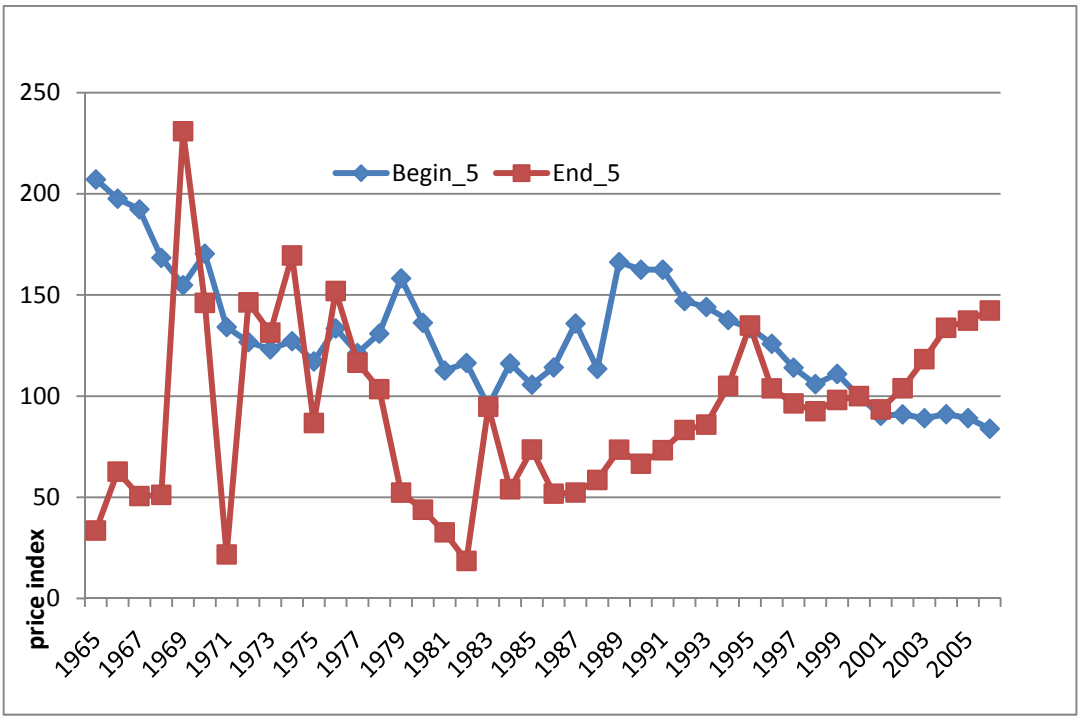


There are three basic features of the African price indices that we wish to draw your attention to which are well illustrated by the Cote d'Ivoire case. The first is that prices for African exports on average after rising till about 1975-77 have fallen until the very recent past when there has been an upward trend. The second is the large range between the highest prices and the

[18] Comtrade Database

lowest. While the last is the fact that the two prices are almost coincident throughout the period suggesting that not only was there little change as we earlier demonstrated in the larger categories, there has been very little change also in what are the top five exports at the commodity level. What do these three points imply? They basically paint a picture of a continued dependence on an unchanging group of exports whose prices fell post 1977 coinciding with the slowdown in growth. They also point out that the growth in the 60s and 70s resulted in little if any transformation. The major exceptions to our basic outline here are Nigeria whose exports are practically 100 percent oil, and Seychelles which has rising indices in the 1980s probably due to movement in exports from primary goods to low technology exports.

Figure 7: Price Indices of Top Five Exports 1965-2005 – South Korea[19]



The indices for South Korea and Malaysia are strikingly different from the African countries in three distinct ways. One the Beg_5 index does not coincide with the End_5 index indicating that the top five commodities have changed over the period. There is also a lower range in variability of the prices and finally while the Beg_5 prices tend to fall those of End_5 tend to rise. So while not completely clear you can begin to discern a price scissors as South Korea top exports shifted from those that had falling prices to those with rising prices.

[19] Comtrade Database

Despite some variation across countries a number of salient features of African exports can be adduced from the information presented above. The first is that African countries have remained primarily dependent on the export of unprocessed goods over the last forty or so years. Two, few African countries have developed significant processing sector exports based on the primary products that they are naturally endowed with. Three, price trends of exports can be very important in determining growth particularly in the context of a lack of diversity in exports. Four, very few African countries have developed significant high technology sector exports. This lack of change in African exports has been occurring while the pattern of international exports has been changing with high technology and high value added exports becoming the larger share of world exports.

The dependence of Africa on extractive exports rather than processed is a significant cause of the low growth and thus low incomes that Africans have received over the last forty years. Beyond the fact that the primary sector production is associated with low value added and therefore relatively low returns to the workers in the sector, it is also the case that these sectors often have the fewest linkages to other parts of the economy (Lall 2000). So not only are incomes low but the positive spillover effects that are characteristic of the high tech sectors are not enjoyed by countries that focus on primary production. What is it that Asian countries did that African countries did not do? We argue that a major component of the success of the Asian countries was due to the role of the state in encouraging and nurturing industrialization. In the next section we briefly examine some of the ways that the Asian developmental state encouraged industrialization.

3. The Asian Developmental State and Industrialization

Export led growth and industrialization are part and parcel of the same development agenda in the Asian case. While the actual aim was to industrialize the use of the export sector allowed for access to large markets where the returns to scale associated with industrialization would pay off and competition in the international markets would make the local industries dynamic and innovative. This process was also closely linked to a process of transformation of the entire economy. The export sector was not an isolated enclave as has remained the case in most African countries. How did the Asian state nurture this process?

The role of the state in nurturing technological innovation and its adoption in industry has changed dramatically due to the improved means in communications and transportation since the industrial revolution. Prior to the 16th Century technological innovations were protected by the slow means of communications and transportation. The slow means of communication meant that information on technological innovation took time to disperse and the relatively slow transportation meant that industries that were being developed based on new technology were somewhat protected from competition from more advanced countries.

With the dramatic lowering of travel costs by the advent of faster sailing ships, and the industrial revolution, the role of the state in ensuring a country obtained full benefit from local technological innovation and that it retained its competitive edge changed. During the industrial revolution this meant that governments engaged in a number of things. These included: improving scientific and technical education, protecting infant industries, importing skilled workers, restricting the movement of their own skilled residents, and even industrial espionage (Ha-Joon Chang 2003).

While some of these practices may be frowned upon today they highlight the multiple facets of the management of knowledge and technological innovation that a country must address in order to develop. These can be divided into five main areas. The first is the provision of a skilled labor force. The second is the creation of an environment in which research and development plus the adoption of new technology can take place. The third is the provision of venture financing to establish industries. The fourth is the creation of an environment in which further investment and use of the new or adopted technologies can take place. The fifth is the management of skilled labour whether abroad or within the country.

In recent world history, the countries that have been able to successfully manage this process have been the newly industrializing East Asian countries. Post Second World War, South Korea, Taiwan, Singapore, and Malaysia have successfully transformed from predominantly agricultural countries to at least middle income industrialized countries. In this section, we will briefly examine some of the policies they have used in order to understand how a country can manage technological innovation in a way that leads to increased growth and development. Let us from the outset make clear that despite the success of the East Asian countries, there is not a singular model of development. In fact, many of the policies were specific to particular countries based on their local conditions. So while we highlight an amalgam of strategies from these different countries, in thinking about policy for African countries, we should remember that the policies and the policy mix should be adopted to fit the local conditions.

What are some of the common characteristics that the East Asian countries shared? As we noted earlier there are five main areas that you can group policies related to industrialization. We deal with each below.

In order for industrialization to be successful a country must have sufficient number of adequately trained workers. This is increasingly important in today's world where the skill set needed is constantly changing. There were at least five common approaches that can be found to ensuring this in the East Asian countries. The first was the creation of a super ministry or coordinating body (e.g. MITI in Japan and Taiwan) that was in charge, not only of an explicit industrial policy, but also of coordinating with the Ministry of Education, in order to ensure that there were people being trained in emerging areas of importance. This meant having both a clear industrial policy and also a manpower plan. One of the key ingredients in this planning, was that it was not simply based on examining and extrapolating past trends, but also examining the world economy and anticipating what were the new skills that would be needed (Kim 2007; Kim and Nelson 2000).

The second common characteristic was that while initially the emphasis was on industry that was labor intensive, it was quickly realized that companies had to be encouraged to keep training their workers and to employ more technical processes that resulted in higher value addition and use of more skilled workers. This was often done through some kind of taxation on companies based on the number of workers of lowest skill level in the company. In order to reduce tax liability companies therefore trained their workers at the bottom of the skills ladder. Often the funds from such taxes were earmarked for a centralized training fund which helped allow government to provide some of the training. We should note here the remarkable direct

example of improvement in individual human capabilities resulting in a twofold improvement in output for the company and improvement in the workers life as one move from the simplest repetitive industrial tasks to more complex ones. This process can start fairly early in the process of transformation and be done so that even as a country still depends on some labour intensive low skilled sectors it is upgrading skills in other areas. For example, China has introduced tougher environmental and labour laws and cut subsidies for companies in southern China which has long been the workshop of the country. The aim of this is to force companies to upgrade skills and products and also keep China competitive as the cost of production in China goes up (Barboza, David (2008) NY Times).

The third characteristic was an expansion of the science, technology and vocational training opportunities in the country. This went along in some cases with the actual restriction of the number of people graduating from tertiary institutions in other areas. In fact, prior to the process of industrialization, Korea had been a society in which fields such as engineering were not prized. The government engaged in a policy that rewarded participation in these fields and pushed enrollment in science and engineering till there was a one to one ratio with the humanities which had previously held pride of place in the tertiary institutions (Ha Joon Chang, 2007).

The fourth characteristic was the support of tertiary education. This was done along with the continued support and expansion of primary and secondary education especially in the early years of industrialization. For innovation to take place and the development of high valued technology exports one must have both a ready supply of skilled labour as well as environment in which research and development takes place. This requires a significant commitment to tertiary education.

The fifth characteristic was the management of the skilled labor that was trained abroad. In many instances either return home was explicitly encouraged or networks were created through which citizens in the diaspora could contribute to the process of industrialization.

The provision of skilled labor alone was not sufficient. In addition to this an environment had to be created in which research and development took place and imported technologies were indigenized or domesticated. Here, there were three common key characteristics. The first was the creation of industrial research institutes. This was accompanied by the allowing for scientific research with little restriction even in otherwise authoritarian countries. The second

was via centralizing the arrangement of information on new technologies. This made it easier for small companies to get information which would have been otherwise prohibitively expensive for them. The third was the encouragement of collaboration between companies on common technologies. Via the returns to scale that obtained when companies came together to research a problem, costs of research and development were reduced and speed of innovation was increased.

Beyond provision of the skilled labor and allowing for innovation, it is also necessary to create a framework in which investment and adoption of the innovations takes place. This is important because in the final analysis the process of industrialization occurs via learning by doing and then building on those experiences (Kim and Nelson 2000). To do this, the countries ensured that the risks to investment were lowered via the provision of subsidies and or protection to companies plus the availability of skilled labor that we have mentioned above. In some cases, this meant supporting loss making companies for long periods. Both Samsung and Toyota, two of the world's leading companies, spent close to twenty years not making profits and dependant on government support (Ha Joon Chang 2007). This meant developing different ways of financing companies beyond private capital. These included but were not limited to Industrial development banks, subsidized loans, and public-private partnerships. By also providing modern infrastructure these countries became more attractive for investment. This occurred in two ways. First, modern infrastructure improved efficiency and brought down production costs thus making local companies more competitive internationally and also attracting foreign investment. The second was that the construction of infrastructure itself created a demand for certain goods thus helping solidify local markets. For example, increased construction in housing and roads would create demand for a cement industry as well as demand for housing fixtures. Since much of this does not require high technical capacity, it is possible for local industry to expand and fulfill these needs. If successful, some of these industries may in the future be able to create an export market for their goods. The provision of information on markets which is expensive especially for small firms to get was also instrumental. This was complemented with the promotion of goods in external markets. The continual encouragement of the use of higher value added processes, which used new technologies, was also encouraged and facilitated.

The external environment was also very favourable. East Asia's very astute and calibrated use of trade policy succeeded partly because of the support of the West. As a key weapon of the developmental state and its industrialization strategy the East Asian states were heavily protectionist. But a different kind of protectionism which was differentiated, conditional, and time-bound compared to that practiced in Latin America or Africa which was unconditional and open ended. The East Asian economies which

were western allies were given privileged access to US market as part of US's Cold War policy that aimed to demonstrate the superiority of capitalism. Access to markets, large foreign aid, and support for US companies to invest and locate high value added operations in these countries were some of the important ways in which the US supported the export led growth and industrialization in East Asia. For example, Korea's US military and economic aid and investment in infrastructure amounted to $13 billion, while the aid to Taiwan was $5.6 billion between 1946 and 1978 (UNCTAD 2006). It is worth noting that at the same period, US economic aid to Korea totaled $6 billion compared with $6.89 billion for all of Africa (UNCTAD 2006).

Thus, despite the variations among East Asian countries, it is clear that the state played an instrumental role in their industrialization process and that the external environment was quite favourable. Although, as noted earlier, we do not favour simplistic comparison of the developmental state in East Asia and Africa partly because the former started off in the 1950s with "strong" high capacity state institutions and administrative structures while Africa had little by way of state capacity day after independence. The structure of their economies was also different. Despite the differing starting conditions, what was the African experience with attempts at transformation?

4. The African Experience

Africans and their governments have long realized the necessity of facilitating socioeconomic development. In fact, in the early sixties, starting with Ghana, the newly independent African countries were focused on industrialization and catching up with the West. Africa's commitment to industrialization led to regional strategies such as CASTAFRICA I and II with the aims of promoting and supporting science and technology development in Africa. African governments also committed to industrialization through the development of the continent's science and technology capacity as outlined in the Lagos Plan of Action in 1980. These and many other initiatives can be considered at three levels. The first is the creation of an environment in which innovation and industrialization can take place – this includes improvements in education, health, infrastructure and governance. The second level is the actual investment in plant and equipment that was often state-led while the third is the establishment of national and inter-state institutions to promote research and knowledge development in areas such as agriculture, science and technology, and engineering.

However, despite the common development objective, the African experience is quite varied. It is clear that the countries have taken different paths. There are major differences between countries and periods, and the institutional environments including policies have been as varied as there are states on the continent. A review of the pre-independence era until now indicates that various epochs can be identified in which there are major differences in policy regimes and results, starting from the colonial era, post independence optimism, the malaise of the late seventies, the lost eighties and the renewed internal demand for democratization and reforms in the early nineties, and the growth spurt in this early years of the 21st Century.

It is a well accepted fact that the colonial policy in Africa was not meant to transform or develop African economies. At the time of slavery, Africa supplied the West labor while during the colonial period African economies were integrated with the West as a source of raw materials for western industries. Although one could point to differences among the colonial powers, the essence of colonization was economic and the policy regime at its core focused on ensuring access to raw materials (Rodney 1985; Coquery-Vidrovitch 1985; 1999; Kaniki 1985). The effects of this were long lasting and most countries in Africa have not changed the basic economic structure that they inherited from the colonial period as shown by trade data in the previous sections. In fact, Price (2000) makes a compelling argument that the extractive nature of African economies inherited from the colonial period is a major reason for the slow growth witnessed in the last thirty or so years. The colonial time was a period in which Africans began

to produce not what they consumed or needed but what the Western industries required. Further, it was a period in which many countries saw the demise of artisanal manufacturing, as artisanal production in tools lost markets to cheaper western manufactured goods.[20]

Despite the introduction of western style schools into the continent during the colonial period, the focus of education was not on building Africa's scientific, technological or managerial capacity (Afigbo 1985). The little infrastructure that was built during the long colonial period was mainly to transport raw materials from the production sites to ports for shipping to the West. The other infrastructure was to provide for the comfort of the expatriate colonial administrators and facilitate the running of the colonies. Essentially, as noted, the policy regime was not meant to be developmental or transformative. The only exception to this was South Africa where a large expatriate community combined with the demand from the mining industry built a semi industrial economy to serve their needs on the backs of cheap and oppressed African labour.

It was with this background that Africans were quite jubilant and hopeful for the future when they began to gain their independence in the late 1950s, starting with Ghana. Optimism was high, especially with high commodity prices. The so called experts were also bullish about the prospects for African economies at the time while skeptical about the potential for development in Asia.

The early post colonial states all embarked on ambitious agenda of nation building. With highly centralized governments and institutions, most African countries launched various development plans and began to implement an import substitution industrialization policy. It was a period in which government played a key role in the economy not simply planning but providing support and in many circumstances directly investing in core industries. While exports may not have changed rapidly as we have shown, some new local capacities were built. Industrial and service output expanded in many countries. Economic growth and social progress were quite encouraging for many countries in the region during this period.

Most if not all the newly independent nations also understood the need to build manpower to drive the growth and transformation of the new economies. There was a major push to expand

[20] A similar thing is happening now with cheap Chinese imports. During the forty years of independence a lot of Africans who did not earn high incomes became dependant on a local informal sector that often produced simple goods at affordable prices. This sector is now facing crowding out from the new cheap imports from China.

education and increase access. Investment in education increased substantially, reaching 5-8 percent of GDP on average. Primary school enrollment and secondary school enrollment expanded at an unprecedented rate. Sender (1999) reports that primary education enrollment in French West Africa, Tanzania and Nigeria was 6, 10 and 16 percent respectively at the eve of independence. By 1990-94, the numbers for female primary enrollment which tended to be lower than male enrollment was much higher than this. For example, in Burkina Faso and Cote d'Ivoire, the numbers were 30 and 58 percent, respectively. In Tanzania and Nigeria, these numbers were even more impressive at 69 and 82 percent. Other countries such as Zimbabwe (114%), Cameroon (93%) and Kenya (91%) had achieved or almost achieved universal primary enrollment. Tertiary education was also expanded with the creation of universities, polytechnics, colleges of education and technical colleges. There was also expanded opportunity for high education abroad for African students, via a number of routes including private sponsorship, public scholarships and aid.

Health care was also a major concern for the new African states. In varying degrees, each state invested in improving the health of their population. This increase in investment is reflected in the tremendous fall in under five mortality rates and the substantial increase in life expectancy before the collapse due to the HIV/AIDS pandemic. For example, it has been estimated that the mortality rates at birth were no less than 500 out of 1000 life births before the 1920's in countries such as Zimbabwe and Kenya. In Burkina Faso, in 1948, the numbers were only slightly below these (Fetter 1990, Mott 1982, and Hill 1993 all quoted in Sender 1999). Between 1960 and 1995 for the 18 countries that data are available, under-five mortality rates fell from a range of 170-365 to between 52 and 195. Countries such as Botswana, Namibia, Zimbabwe and Kenya recorded rates of under 100 (Sender 1999). In Sub Saharan Africa as a whole, the under-five mortality rates fell from an average of 160 to 106 during this same period. By 2005, the average had fallen further to 96 (World Bank 2008). Life expectancy at birth also tremendously improved due to the improvements in the provision of basic health and the increases in income before the end of the 1980's. In 1960, the life expectancy at birth was 41 years for Sub Saharan Africa. This improved to a high of 50 years in 1987 before falling under the onslaught of HIV/AIDS. Despite this fact, African countries still on average have had net improvements along this dimension of human welfare.

Although there were differences among the African countries in terms of the "how" and the emphasis placed on the market, the unifying forces were the similarities of their experience and a vision for industrialization and development of their economies. Countries such as Ghana under Kwame Nkrumah focused on industrialization through expansion of university education and building large scale infrastructure while next door in Cote d'Ivoire Felix Houphet Boigny

focused on a massive expansion of cash crops production, cocoa and coffee, with extensive import of labor from neighboring countries.

By the 1970s, the external environment which had been mostly benign or cooperative turned in large part against Africa. The element of 'luck' which is needed for development and transformation in addition to an internal environment that is development-friendly had simply varnished.

Firstly, commodity prices which had been high began to fall. The crash in commodity prices dealt a major blow to African economies. Secondly, the sharp rise in prices of oil was a major shock for most African economies. The combination of sharp decline in the prices of commodities and rise in oil prices were instrumental in the collapse of African economies and the beginning of the debt trap. Thirdly, the improvements in health, especially the decrease in infant mortality, had the impact of an immediate increase in the rate of population growth. At the same time the economic factors that fed back into decisions of child bearing such as schooling, increases in income and provision of social security for old age, work with a lag. In fact, due to this lag and the improvements in basic health African populations boomed. By the time they would have started having an effect in the 1980s, the slowdown in growth plus the structural adjustment programs had mitigated their potential impact. The result was that African countries did not see a demographic shift. Instead the economies were faced with the cost of accommodating an increasingly young population. Fourthly, the international ideological struggle between the capitalist West and the communist East led to profound crisis in Africa. Many African countries became pawns and victims of the ideological fight between the West and East and their own self-seeking and corrupt elites. The continent literarily became a battle ground with military coups and counter coups and civil wars sponsored by Western and Eastern powers.

Military and pseudo civilian dictators were propped up while democrats were toppled and space was provided for state capture by despots in many countries. One of the key problems brought about by the African version of dictators whether military or civilian was the distaste for intelligentsia and the academy. In the context of a closed political space, a failing economy, and young nations, national universities became hotbeds for dissent and for most dictators they became the enemy. Higher education which was the pride of newly independent African states became a target. Resources dwindled. Many institutions became a shelf of their past while many in the academy were simply corrupted. Probably as important, the suppression of debate and research on political inequalities gradually encompassed all locally driven research

and debate. Contrast this to East Asia where authoritarian regimes in the context of growing economies and the material improvement of lifestyles were able to allow for debate while also increasing resources for science, technology and engineering education. In fact, in paragons of capitalism such as S. Korea, Marxian economics was tolerated until this decade at the National University in Seoul. The idea of knowledge building, acquisition and diffusion became irrelevant as the new African rulers were primarily and increasingly concerned only with maintaining power. By the end of the 1970s, beyond the few wars for independence, many African states had either just ended, in the midst of or about to begin a civil war.

These multiple crises began the unraveling of developmental states that many African countries had begun to painstakingly construct right after independence. By the early 1980s, most African states ability to maneuver and the policy space had diminished significantly. The neo liberal ideology had taken over with the structural adjustment programs under the guidance of the World Bank and Western countries pushing a new policy regime popularly known as SAP or the Washington Consensus, which is primarily fixated on stabilization, privatization and liberalization.

This approach which has seen little space for the state as an investor even in traditional public goods such as education and health was at least partially responsible for the collapse in the support to education in general, and to higher education particularly as an emphasis on primary education based on rate of return arguments led to a smaller negative impact there. For example of 13 countries for which spending per pupil data is available fairly regularly between 1970-75 to 2000-05 we find that most countries (9 out of 12) had a fall in spending or it remained more or less constant with the high point was reached between 1970-85 (Table 5). Only three countries Botswana, Lesotho, and Swaziland saw an increase in spending per pupil.

Table 5: Index of Educational Spending per Pupil for Selected African Countries[21]

	1970-75	1980-85	1990-95	2000-05	Change 1970-75 To 2000-05
Botswana	100	109	198	411	311%
Cameroon	100	121	96	48	-52%
Congo	100	90	105	53	-47%
Ghana	100	38		86	-14%
Kenya	100	100		101	1%
Lesotho	100	169	215	565	465%
Malawi	100	140	95	79	-21%
Niger	100	100	57	32	-68%
Rwanda	100	119	130	81	-19%
Swaziland	100	118	147	176	76%
Togo	100	141	108	83	-17%
Zambia	100	53	29	19	-81%

The decline in funding has been especially critical for technical and university education especially given the growing population and increasing demand. With the push by international development partners and experts, tertiary's education role in development was viewed with a blind eye for nearly two decades (World Bank 2008). Funding by institutions such as the World Bank declined substantially. For example, World Bank's funding which averaged US$97.1 million annually between 1990 and 1994 declined to US$ 27.7 million per year from 1995 to 1999 (World Bank 2008). With the lack of domestic resources due to competing needs, conditionalities, matching fund requirements and international priorities, African countries 'grudgingly followed suit' (World Bank 2008). The decline in education funding particularly for technical schools and universities did not augur well for Africa's economic transformation given the need for high level skills and knowledge.

Through it all, African countries have insisted on upgrading their science and technology capacities and productive capabilities. In the early period, efforts to develop scientific and technological capacity were aimed at building industrial and manufacturing capacities. It was the reason for import substitution strategy in manufacturing and the post-independence

[21] For each country the average of two years is taken e.g. 1970 and 1975. For some of the countries data for one of the years may be unavailable. The countries were chosen based on availability of data. The base year is 1970-75. Source: UNESCO Educational Statistics

investments in agricultural extension and research, and in technical and university education. Early efforts with respect to developing tea in Kenya, palm oil in Nigeria and in building local manufacturing were in some cases quite successful. However, development challenges and several unique problems hindered sustainability, including policy reversals, instability of support, low levels of commitment, and lack of awareness (Adubifa 2004).

Reviews by Adubifa (2004) and Forje (2005) indicate that, despite the efforts to-date to support science and technology development to boost Africa's industrialization and competitiveness, the results have been mixed. As Adubifa (2004) indicates, the development of science and technology sectors and professions in the continent are still in their infancy and not in a position to compete globally. Furthermore, as we noted earlier, the universities and technical institutes have suffered from inadequate funding for an extended period of time while academic standards have declined substantially in many cases. The once heralded centres of educational excellence like the University of Legon, (Ghana), Ibadan (Nigeria), and Makerere (Uganda) are now shadows of their past and what Forje (2005) describes as "… advanced primary educational institutions…". Whereas Africa could boast of world class universities in the immediate post independence era, today no sub-Saharan African university is among the top 200 in global ranking (World Bank 2008).

Part of the challenge is that science is not fully appreciated. As such, science is largely absent from early education and at the secondary and tertiary levels. Compounding the situation is the lack of needed resources for science and technology development, starting with education and research. Financial resources to build the scientific and technological capability are simply missing. In 2005, for the 18 countries that data is available, only 2 had research and development expenditures above 1%, namely Uganda and Tunisia. Where as in percentage terms this may not seem terribly low given the size of African economies the amounts are small. The other 16 countries including South Africa spend less than 0.87 percent on research and development (UNESCO 2007).

Furthermore, there has been limited private sector investment in the application of science or the development of technology. Even where science and technical education are better funded there is a real question as to whether the approaches used in imparting scientific knowledge take into account the local conditions. Like much education in Africa, especially higher education, teaching and often scientific practice mimics the west uncritically, both in question and approach. Often this is done at the expense of dealing with the most pressing of African needs. A key element of the problem is funding. In some universities, research funding is over

90 percent dependent on donor financing (Shabani 1996 and Wondimu 2003 quoted in World Bank 2008). This skews the nature of research in Africa away from science, technology, competitiveness or economic growth towards poverty analysis, women issues and environmental concerns. Research is essentially divorced from augmenting national capabilities in the support of industrialization and economic transformation.

The new importance of private universities which arose with the lack of funding of the public universities has compounded the ability of African countries to create skilled manpower in the fields of science and technology. Because scientific education and research is expensive across the world it has been subsidized by governments and in older countries with a long university tradition also partially by foundations which have built their endowments over the years. In Africa the new private universities have focused on training in the Humanities and Social sciences which are less expensive. While Africa needs these graduates as well it is important for us to recognize that even when the private sector has fulfilled some need for tertiary education there is a critical gap in fields which are central to creating an industrial based economy.

The result is that sub-Saharan African countries are far behind the rest of the world and have not acquired adequate capabilities to meet the unique challenges facing African nations and those emanating from globalization despite numerous efforts since the 1960s at the national, regional and international levels. The fact is that Africa failed to transform its structure of trade and to capitalize and utilize its earnings from its exports to restructure the economic base or develop ancillary industries around its top primary commodities and products. The impact has been devastating with every burst in commodity booms leading to growth collapse. In fact, there is fear that the current commodity boom which has led to high growth in the continent in this first decade of the 21st Century may simply collapse again.

The inability to respond to the early growth collapses and the various crises that emerged in many of the post independent states have led to a crisis of confidence. International response was simply a one-policy fit all agenda of adjustment/stabilization, liberalization and privatization which emerged in the 1980s and were forcefully pushed in the 1990s without taking into account country specificities. As aptly put by Rodrik (2006), the mantra was simply "get your macro balances in order, take the state out of business, give markets free rein." A wave of reforms was embarked upon in Africa and within a decade the policy landscape changed with all African states engaged in one form of structural adjustment program sponsored by the World Bank and IMF or locally.

All African countries have today gone or are going through some form of adjustment program. Poverty Reduction Strategy Papers (PRSPs) have now superseded Structural Adjustment Programs (SAPs) and are the main policy document for development management. Its preparation has become a basic pre-requisite for countries seeking support from the international community. The reality though is that results have been far less than expectations. Although poverty reduction strategy has now taken the center stage with a focus on achieving the Millennium Development Goals (MDGs), the contention is that policy prescription continues to be placed on stabilization, liberalization and privatization, albeit it is now the extended Washington Consensus. In short, despite the often repeated lessons and desire to reorient policies, the World Bank, IMF and many of the bilateral development institutions continue to peddle orthodoxy of the markets with a few caveats like the insistence on good governance, capacity building and the need to upgrade institutions.

What is clear from the preceding sections is that the development management process has not been static. Various development management approaches and policies have been implemented over the last five decades since the first sets of African countries began to gain their independence. Similarly, countries have differed in the way they approach or implemented their development strategies. Overtime, countries have veered in various directions. Results across countries and over time in the various countries also differ.

However, what is clear is that where Africa is today is not what many envisioned right after independence. Put mildly, growth expectations for most African countries have not been met despite the current positive growth performance. The gap between reality and expectations has been defined as a 'classic tragedy', with potential unfulfilled and disastrous consequences (Easterly and Levine 1997). The continent continues to be highly susceptible and vulnerable. But despite this reality there have been some successes, which are no less spectacular.

Africa's inability to compete in the global marketplace and the consequent poor performance and low income is a result of many factors. Researchers have associated the poor performance with low level of schooling, political instability, underdeveloped financial systems, corruption, distorted foreign exchange markets, high government deficits, insufficient infrastructure, low capital accumulation, weak institutions, demographic change in combination with natural resource depletion, low human capital investment, government policy, technological gap, and weak capacity for economic and development management. Other factors mentioned include the unfavourable international environment and global trading system and the continuous

meddling in the internal affairs of African states, with governments having limited control over policy directions.

All these factors could be argued to have some explanatory power for where African countries are today. However, the variation in performance between African countries remains poorly understood. The fastest growing economies, especially among the small nations in Africa, have been able to achieve unprecedented rates of growth. These countries have been able to sustain their growth and to a large extent built reasonably competitive economies. Why? What do fastest growing African countries have that others do not? Why have they succeeded when others are having difficulties? What lessons could be learnt from their experiences?

The experience of the developed and the emerging countries that have been able to industrialize and transform their economies provides a strong indication on the importance of the state despite its premature obituary heralded especially in the 1990s. The lessons from the few successes in Africa and the experiences of the economically advance countries in Asia, Europe or in the Americas, are that the state does matter and continues to play a determinant role in economic transformation. Even the US, the perceived paragon of free market enterprise, the invincible hand is an illusion and the state has and continued to played critical roles in industrial development (Lazonick 1991). The response to the current global downturn is a powerful illustration of the important role of the state.

It is clear from the experiences that some basic preconditions must be guaranteed by the state to ensure genuine transformation. These preconditions include stability, long-term vision and strategy, leadership, inclusiveness, and democratic governance. These preconditions are also linked. That is in statistical parlance the conditions are not independent of each other. All the countries able to achieve high performance over a sustained period must cross the necessary threshold for all of these preconditions.

It is not that rapid growth is not possible without all or any of these conditions it is that such growth cannot be sustained over a period of time and the growth, if it occurs without these conditions, is likely to be non-developmental and non-transformational. The African experience with the commodity boom of the early independence era is illustrative. For economic transformation, the country must be stable. Without stability the nation will not be conducive for development. There is also a crucial need for a national vision and strategy on which there is a broad based national consensus. That developmental agenda (vision and strategy) must be clearly spelt out and must be inspirational; the leadership from all key sectors and the broad

spectrum of the population must be in support and committed to making it happen. Importantly, it must focus on the people. There must be a sense of nationhood and all groups must be included in the development agenda. The people and various groups in the country must see themselves as part of the nation and its future development. That is, the object of and agent for development and transformation. Inclusiveness, in short, must be felt with respect to politics, economy, and in all other core areas of national life. This allows for buy-in and readiness by the population to make the necessary sacrifice for nation building. Democratic governance, in this case, does not necessarily equate with electoral democracy. It has a lot to do with ensuring sound national management, engagement with stakeholders, robust debate, and putting the commonly shared vision first. All these however are not possible without the right leadership and visionary followers at all levels of society. The national leadership must lead the building of a shared national vision and strategy, get the buy in of key groups, ensure an inclusive society and facilitate good governance which steers the nation towards national goals. The followers must actively participate and demand performance from the leadership.

In this particular regard, African states face a challenge of becoming developmentalist states because developmentalists states pick industrial winners and losers. In the absence of a established industrial class and in the context of multi-party elections where political parties are not necessarily ideological vehicles but more likely simply instruments to achieve power this problem is complicated as changes in regime may mean a desire to pick a different set of winners and losers more aligned with the new regime. The establishment of industries in Asia was not a short term project as we have noted earlier companies such as Toyota and Samsung were sustained by their respective governments over periods of up to twenty years before some of their product lines could make profits. For this to occur in the African context requires that the political elites across the spectrum agree on a long term commitment to creating industry regardless of who is in power. The only likely way this will occur is if the process of growth and industrialization is inclusive from the beginning so that even if a regime changes because citizen from all regions and groups of the country are benefitting there will be less likelihood of derailing the existing industrialization project.

These preconditions are what differentiate countries like Mauritius and Botswana from the pack. These two high performing countries have largely managed to cross the threshold. Many other countries have met the criteria at different times; achieve rapid growth only for them to fall back. Nations able to meet these criteria have ‘developmentalist’ states with a mission, focusing on ensuring socioeconomic development and transformation. Such states are able to ensure their legitimacy in the eyes of their citizens.

Another small country which may not be in the same league as Mauritius and Botswana in terms of growth but have met these preconditions is Cape Verde. Since its independence in 1975 from the Portugal, the national leaders have focused first and foremost on building a nation. The early efforts in that regard focused on legitimizing the state, providing social services, democratizing education, and ensuring an inclusive state. Stability has been maintained since the early days of one-party state to the current multiparty democracy. There is a clear vision of development from the early period in which education, health care and food security where the top national priorities. Now that the early development goals have largely been met with the nation almost at par with European countries on some social indicators such as primary school enrollment, life expectancy, and freedom Cape Verde is moving towards socioeconomic transformation (See box on Cape Verde).

Thus the state instead of been marginalized needs to be strengthened. The SAP program was particularly bad for Africa in this respect as it contributed significantly to the weakening of African states (Olukoshi 2002; Mkandawire and Olukoshi 1996). In the early post independence period, the state in Africa played an important organizing role and many countries witnessed significant progress. The lessons from the high performing countries though is not to build an ominibus state but a state that is developmental and able to ensure that the basic preconditions are met. Why has African countries largely not succeeded as developmental states? Put differently, why is industrialization and economic transformation elusive to most African countries despite the promise of the 1960s?

Box 1: Cape Verde's Early Steps - What Lessons? [22]

?

Cape Verde gained its independence on 5 July 1975 from Portugal. Except for a US$300,000 line of credit obtained from the Government of Portugal subsequently, there was nothing to build the new state. No oil, coal or other natural resources that is valuable that could be sold for funds. Yet, today, Cape Verde is one fast growing economy in Africa with some of the best social indicators of economic and human development.

In fact, the challenge before the newly independent nation was huge. Infrastructure was limited. Educational opportunities were scarce. The country had only one hotel, with 12 rooms! Per capital income was about US$190. Famine, then, was a recent memory. The low levels of infrastructure and education, limited private sector, and the simple fact that Cape Verde had no resources made it difficult to be optimistic about the future.

Thirty Years of Transformation, 1975--2005[23]

Indicators	1975	2005
Per capital income (US Dollars)	386	2045
Life expectancy (Years)	53.31	72
Child Mortality (per 1000)	>100	24.1
Literacy rate (percentage)	37	792
Average years of education	--	11.4
Telephone lines (% of household)	--	67
Human Development Index	0.5893	0.736

The challenge was daunting but the country and its leaders were also determined. The first steps were quite pragmatic, not revolutionary or earth shattering. In fact, the country favored moderation and a gradualist approach. And, the first emphasis was to build the confidence of the people; to build their confidence in the new state, in national institutions, in the future, and in the leadership. The aim was to ensure that the nation had a credible constitution; that the people are united and no exclusionary policies which could create divisions were tolerated.

Secondly, Cape Verde embarked on a process of democratization of education and learning. The belief was that no society will develop without a strong culture of learning. The government introduced and pushed education so that the people could master the realities of the emerging world, upgrade their skills, and to also learn the responsibility of citizenship. This allowed Cape Verde to build an engaged and active populace; it facilitated dialogue and participation in politics, and reinforced national unity and inclusiveness.

Thirdly, Cape Verde received its independence at the height of the cold war. There was a lot of pressure and temptations to join one camp or the other. But Cape Verde decided it was not in its national interest to align with any camp. The government favored political realism. Cape Verde diversified its relationship and networks and aimed to ensure the support of partners by showing results.

Fourthly, the government encouraged openness. This was important as many Cape Verdeans were outside the country. The country opened up to ideas and influences from outside. The government learnt and adapted when it suits national needs. This is part of the spirit of learning that the nation engendered.

[22] Based on interview in early 2007 of the H. E. President Pedro Pires of Cape Verde since 2001.
[23] Life expectancy under 1975 is for 1970, Literacy rate for 2005 is 2006 data and HDI for 1975 is 1985 data.

Fifthly, with Cape Verde's history of famine, the government moved quickly to put in place policies to ensure food security. The agricultural sector reforms were undertaken to ensure that the people appropriated the reforms and made it work. The nation essentially ended famine through support for introduction of new technologies which increased agricultural outputs, ensuring that farmers received fair price for their products and providing targeted support for the poor.

Sixthly, government efforts were driven by an agenda of constructing a credible state with effective institutions and which has the confidence of the people. The government built infrastructure such as roads through new approaches to make it easier for people to move around the Islands. Government created state enterprises in core areas such as transportation, telecommunication and energy given the limited private sector at the time of independence to serve as catalyst for development and to correct market failures. At the same time, the government placed emphasis on building private sector through support to SMEs.

The country was also keen on building a new mental model in which people see wealth not simply in material terms but as well as in progress in mental progress. The purpose was to advance the notion that satisfaction is internal. The government also ensured that dependency on the state is not encouraged; for the very poor programs were created in which food aid received by Cape Verde was sold in the marketplace and the money received was used to fund public employment programs in which people built roads, planted trees and created terraces to reduce erosion and rainwater runoff. This facilitated the building of a culture of work and targeted the poor.

The main achievement of the early period in Cape Verde is the construction of an inclusive state and building a nation with shared values and a national consensus on the minimum ideals. But numerous challenges remain, including unemployment, poverty and vulnerabilities. There is a national consensus on the need to deepen the national development agenda to address these challenges.

It is the reason why Cape Verde has now embarked on transformational change, not tinkering at the edges but fundamental shifts. Cape Verde wants to build a new economy, with expanded productive base; a private sector that is able to compete in the global marketplace; and to develop unique products and services which differentiate the country from others.

Cape Verde has made tremendous progress since independence. But a lot remains to be done to build on gains since independence, build a globally competitive economy, and address the challenges brought about as a result of the new reforms. However, several lessons can be drawn from the Cape Verdean experience so far. These include: the importance of strategic and visionary leadership; credible state with effective institutions that engenders people's trust and confidence is a priority; democratization of education and building a culture of learning are essential; diversification of alliances and partnerships must be encouraged; pragmatism and realism with the ability to change when necessary must be valued; and building an active civil society and inclusive society must be a virtue. Coupled with these is the need to be build the necessary capabilities to compete in the global marketplace.

5. Why have many African States failed to remain a key driver of economic transformation?

Despite the facts today, Africa of the 1960s was full of promise. For some period, the expectations were justified by performance. But Africa today is not what many envisioned at the dawn of independence. Successes are rare. The reality is that Africa is yet to recover from the growth collapse of the 1970s. Notwithstanding the current commodity boom, growth remains fragile as it is largely dependent on external conditions.

Addressing the challenge will require that we look beyond conventional wisdom or the usual variables or culprits. In our view, our problems in the continent today is not due to shortages in policy prescriptions or the lack of ideas on what must be done to dissolve the often repeated challenges facing the continent. Essentially, it is not for want of policy prescriptions. We have to go beyond the policy prescriptions to understand why is it that African states are not doing what we know needs to be done to achieve socioeconomic transformation.

Four core but interrelated issues seem to be at the root of the failure of the states in Africa. They are the first order level issues which must be addressed and they include:

- Crisis of confidence
- The inherited colonial state
- The outsourcing of development
- Aid as development.

We now briefly examine these four points.

5.1 Crisis of confidence

Is Africa facing a crisis of confidence? This is a question we must ask, following four centuries of slavery, a century of colonization, and five decades of independence in which poverty is more rampant today in many states than there were thirty or so years ago.

We must begin to ask ourselves, as Africans, if we do have a crisis of confidence. It is pertinent as it has a bearing on how we overcome the problem of state failure and many other challenges

African countries must confront in order to realize the vision of industrialization and economic transformation.

However, this paper's purview is not to answer the 'crisis of confidence' question but to bring it to the fore, as it leads us to ask other questions. Do we, as Africans, believe we can compete in the global marketplace? Have we lost our faith in our ability after decades of trying or as some will say paying lip service and not really trying? Do our leaders have the imagination to lead in today's world? Do the people and their leaders still believe in their capacity to come together to act and solve the great problems of our time given the record so far?

A review of development management in Africa since the independence will show we can indeed answer these questions differently at different times and also across countries. Early post independence Africa state was full of optimism. There was a focus on how to rapidly develop and catch up. One can say the state and people at that time were confident and embarked on building an economy that will one day be able to compete in the global marketplace. The efforts were ambitious across the continent; education, health care, and infrastructure expanded at an unprecedented rate. Large scale efforts were embarked upon to raise capacity of African states to compete and in many cases major push were made to launch new industries. The issue on hand is not whether the efforts ultimately succeeded. But whether or not the states were ready to compete and whether they were taking the necessary actions. Essentially, there was a shared vision and strategy. How many African states can one say have a shared vision and strategy today?

It has become difficult to answer the question of whether African states are ready to compete affirmatively since the 1970s. The reality is that African states on the average have been trudging along without a cohesive and comprehensive development agenda since the collapse of the commodity boom in the 1970s. States lurch from one strategy to another based on international aid agenda and the need short term need for financing. Even NEPAD which was the next big idea is not working out as it was planned. In fact, some will contend it is not a project of the people and that it was developed in reaction to demand by Western nations (Olukoshi 2002). Importantly, the state seems to have ceded its prerogatives to development agencies and there are no generalized effort to upgrade productive capacity and move up the value chain starting from the sectors in which we may have some comparative advantage.

Kenya is today the biggest economy in East Africa. Since independence, it has made significant progress in raising its global competitiveness in a few core sectors such as horticulture and tea. Kenya is today the largest exporter of black tea in the world and also produces over 40 percent of the cut flowers sold in the European market in addition to a substantial proportion of fresh

vegetables. Cote d'Ivoire and Ghana are among the most important countries in the world in the production of cocoa and coffee beans. In fact, they both have a majority share of the two products.

Despite the major advantage in producing these products, efforts to move up on the value chain in these sectors have been minimal. As such, we have Cote d'Ivoire and Ghana as leading producers of cocoa beans with no known global chocolate brand. Despite accounting for over 60 percent of world's cocoa production, no African country has successfully moved up the cocoa and coffee value chain. In fact, while African countries have been busy increasing their outputs of cocoa and coffee revenue is on the decline and farmers are receiving less. On the other hand, countries such as Switzerland and Belgium which do not produce one cocoa bean are the leading producers and exporters of chocolates. Why after decades of independence and leadership in the cocoa production has Ghana and Cote d'Ivoire not moved up the value chain in any significant way? Similarly, Kenya, with the progress in agriculture since independence, has yet to tie its technology or industrialization policies to the progress it has made in these sectors in order to begin to innovate and produce tools (technologies) which can be used locally and also exported.

Rather than move up the value chain African producers have continue exporting mostly unprocessed raw products. This trend is continuing with the introduction of fair trade which while paying African farmers more still retains most of the premium for their goods in the West. A clear example of the inability of African producers and their states to "dream" is the case of the very successful Kuapa Kokoo Cooperative in Ghana. Using the proceeds from its high grade cocoa and some international assistance the cooperative has purchased a chocolate company in Europe. While the cooperative has managed to get premium prices for the farmers, it has retained production of chocolate in Switzerland with no indication of shifting this high value aspect of the cocoa chain to Ghana. In fact, there is no indication that there is any attempt to train Ghanaians in this aspect of production. On their web site, the reason seemingly given for production in Europe is that the European market is highly competitive. Even if it were the case that it would be very difficult initially to produce for Europe from Ghana, it seems that the company could be competitive in the African market with Ghanaian produced chocolate. Compare this with Scharffen Berger Chocolates of San Francisco that is now one of the leading chocolate makers in the USA. This company was started in the 1990s by a doctor with no previous chocolate making experience and second hand equipment bought from a German factory. While it is clear that some financial reserves are needed in order to start a company

and keep it going before you have built a brand the resources do not seem to be beyond what was available to the Kuapa Kokoo cooperative (Scharffen Berger and Kuapa Kokoo websites)[24].

The fundamental challenge is not that African states are behind. It is the fact that there are no concerted efforts to compete in the global marketplace. Most African countries seem content exporting their primary products. Beneficiation or value added has not been taken seriously as it should. This is why for centuries the average African farmer has not really change the approach or the way they farm. In fact, in pre-colonial and colonial periods basic implements for farming such as cutlasses and hoes were made by the local blacksmiths. But today they are imported from China.

Not only are many African states not charting and mapping a strategic agenda for how to compete in the global marketplace the enterprises and firms are also not focused on producing value added products for exports. Except for South Africa, it is hard to find multinational companies that call African countries home. Our home-based firms are primarily focused on exporting raw materials or primary commodities except for a small number which are limited to only a handful of countries. Even in the extractive industries the dominant players are multinationals. Nigeria only began in this decade to aggressively push for local firms to play a more significant role along the value chain in the oil industry.

The challenge is not that African nations do not know what to do. The problem however is that since the 1970s and the multiple crises that engulfed many African states, the idea and notion of been able to compete and actively seeking to compete in the global market place has not been given priority despite the rhetoric. It seems our leaders may have lost faith in their ability and that of their nations. Otherwise, what explains the rush by African leaders and elites to invest their wealth (whether acquired legally or through corruption) in foreign countries, while trying to attract foreign investors to Africa? Expecting to fail is a sure recipe for failure. Many among the elite and the leadership are simply not bullish about the future of their countries and in this context the temptation not to invest in the long term but rather take what you can get now is very tempting.

If we still have the confidence and faith in our ability there will be an overwhelming focus on innovation, science, technology and competitiveness; there will be emphasis on national learning; education and capacity building in core fields will be priorities; African states and firms will be more invested in competing in the global marketplace; the right institutions to support

[24] Since our first writing of these a number of small Ghanian chocolate makers have appeared including one based in the USA

and facilitate innovation and competitiveness would be nurtured while our elites and leaders will put their nations first.[25]

5.2 The inherited state

It is important to note while still acknowledging our own responsibilities to reform it, the inherited colonial state was a major part of the problem. The colonial state was not created nor designed to improve the lot of the African. It was designed to ensure that the colonial powers had access to raw materials and markets for their own production. One must ask if such a state could ever produce a thriving self sustaining industrial economy. In addition, the inherited colonial state was not democratic. In fact, if anything, they thought Africans the wrong lessons about democracy and governance (Claude Ake 1996).

Unfortunately, most African countries did very little to dismantle the inherited colonial state. In fact, after independence, most of the African political elite were quite comfortable using the control apparatus of this state which was neither democratic nor developmental to ensure their continued domination of the country. Along with the inability of this state to implement a self sustaining development process was the fear of any other centre of power. This fear resulted in African states ensuring that an industrial class did not emerge among the indigenous population. Part of the strength of East Asian states has been the nurturing of a class of entrepreneurs who after initial support from the government have been able to lead their companies to becoming internationally competitive. Additionally, they have managed to create a self sustaining process of accumulation that no longer is dependent on the active participation of the states.

The lack of effort to redesign or change the character or nature of the inherited colonial state after independence partly explains why so many African states have failed in their developmental efforts. The inherited states were largely seen as illegitimate which was in the first instance one of the many reasons behind the push for independence. The lack of credibility results from the illegitimate nature and origin of the state. The African state, for many, is therefore an artificial construct which lacked legitimacy and credibility. It is the reason why many see the inherited state as alien or the 'other', and why it is seemingly so easy to take from the state. In the process, corruption or cheating the state becomes normal or something to be celebrated in extreme cases.

[25] The core concepts in this paragraph (e.g. national learning) are addressed in the background paper on Knowledge and Development – the African experience.

5.3 The outsourcing of development

Since the first growth collapse or economic crises in the 1970s, Africa has been at the receiving end of development paradigms and agenda which are not necessarily designed or put together by Africans. By and large, programs and policy prescriptions are developed and African countries are expected to implement. Despite the goodwill, this is not the way to develop. States have only been able to genuinely transform their countries only when the efforts are nationally owned with support and commitment by key stakeholders.

It is clear that development cannot be outsourced. This is especially so if we define development as a process of problem solving with the explicit purpose of societal and economic transformation. Such a process will impact on development strategy and policies from what form of education, what type of institutions, to how the state relate to firms, and what support programs is put in place to facilitate their competitiveness in the global marketplace.

The fact is that development management in Africa is not focused on problem solving and learning. In most circumstances, strategies are not homegrown and do not reflect the realities on the ground. Coupled with this is the new attitude in which governments exist mainly to seek resources from donors to implement development projects which are likely to be what is of interest to partners. Notwithstanding the rhetoric about 'country led', many African states have ceded leadership on managing their economies to partners and development agencies.

The fundamental problem is that we no longer have the initiative both at the government and societal level. The governments are busy reacting to the demands of donor partners and international institutions while the average citizen is busy waiting for government to deliver. Participation in the development process has declined and basic homegrown efforts of the pre and immediate post independence era can be said to be on the decline. Even civil society organizations which used to rely on volunteer efforts in the early days are now all geared through civil society organizations or non-governmental organizations to seeking funds from donors to implement programs. The question to ask is whose priority?

The challenge though is that this has progressively worsened since the structural adjustment program with the weakening of the state. The government is sold on the 'the myth of the market economy' (Lazonick 1991) with the promise of development support and how the implementation of certain policies will produce development. The governments in turn, especially in these days of electoral democracy, promise to deliver development to the people without the need for them to get involved, engaged or get their hands dirty. Local initiatives are no longer driving the development process nor are they encouraged. As such, the people wait

for development, thinking that the government will deliver while the governments are waiting for the 'magic bullet agenda' and funding from development partners. Slowly, individual and communal responsibilities for development is been abrogated as everyone waits for government while government waits for development partners.

A true story but only an anecdote is the use of marijuana in secondary schools in an African country by students. Asked what the government is going to do about drug abuse in the school system on Focus on Africa, a BBC radio news program, the Minister of Education quickly without thinking twice said we are talking to our development partners. The follow up question which should have been asked but was not is 'what do development partners have to do with drug abuse in secondary schools in your country?'

This is a fundamental challenge. If we cannot deal with drug abuse by our children in secondary schools on our own, why do we believe we can compete in the global marketplace or build an industrial economy? Who is the development community deceiving when they assume roles that they are not suitable for, on the one hand, while, on the other, peddling policies which they themselves have accepted are not working as they ought to and are not reflective of the African experience or experiences of the advanced economies, whether in Asia, Europe or Americas?

In short, despite the billions spent annually in the name of lifting the poor out of poverty, the 'development industry' has become more like a game played by local 'Sangomas' in the Southern Africa or 'Marabouts' in West African villages and cities, lots of ceremonies but little impact as the focus is on symptoms rather than the underlying diseases ailing their clients (Kakwenda 1994).

Despite the untold stories of successful development support programs, by and large, the weakening of the state since the 1990s and the over-reliance on external support either by government waiting for donors or the people waiting for under resourced governments, development has steadily moved away from what it should be in the ideal: a process of jointly solving national problems with the explicit purpose of societal and economic transformation.

5.4 Aid as development

A key element of the problem is that aid has now become a substitute for real development. Aid which is expected to, for lack of a better expression, be a hand-up or support has become the main focus of development managers in many African countries. This fundamental shift has been detrimental. It has in effect robbed the continent of its initiative and ownership of the process of socioeconomic transformation.

It is not that aid is bad. Aid has contributed significantly in addressing several big issues facing developing countries, Africa included. It has been particularly helpful in conflict situation, addressing health care and basic infrastructure such as providing water.

However, what is bad is the politics of aid and how it is practiced in many instances. For the most part of the first five decades of development management in Africa, aid was used to prop up failing governments, military and civilian dictators, and to finance weapons which the state then used against their own citizens or to fuel civil wars. Aid, in this classic sense, was not for development but ideological, whether it is to push the ideology of markets or socialism at the expense of common sense or to fund armed wars against real and perceived threats from the other side of the ideological divide, especially in the days of capitalist West versus communist East.

In those days and, to some extent, now, a major impact of aid is distortion. It distorts policies and encourages unsustainable development policies. Many African states got a lot of things right in the immediate post independence period as well as making major mistakes. In areas such as education, health care and infrastructure significant progress were made. The attempt to turn the states into producers in many circumstances or the distortions which favored certain groups to the detriment of the larger society was clearly wrong.

But rather than be encouraged to learn from the experience and supported to make the necessary reforms African states were pushed or forced to embark on agendas which were a wholesale repudiation of what they were doing earlier to such extent that investing in higher education which had been a key element of the strategy to industrialize and ensure transformation was discouraged. The effect today, as we have noted earlier, are universities which are a shadow of their past.

Distortion of national priorities is not only limited to pushing wrong policies or having countries act against their own long term interest; it is also creating an extreme situation in which governments are simply trying to satisfy donor requirements to obtain resources. One result is

the preparation of documents, including poverty reduction strategy, medium term expenditure framework, national environmental plans, information and communication plans, and MDG reports simply for the sake accessing resources rather than affect a transformative agenda. As such, many governments are developing and implementing programs not because they fit within an overarching national vision and agenda for socioeconomic transformation but because it is a way to obtain resources from donors. This is likely to continue as long as African governments continue to heavily rely on aid and aid agencies continue to drive the development agenda rather simply work with countries and support homegrown priorities.

6. Understanding Development

Our view is that these problems arose partly because of the misunderstanding of what development is or should be. It could be argued that our conception of development since independence has never really been 'Africanized'. What does development mean beyond the textbook definition of economic growth? In the early sixties, it was industrialization through import substitution to catch up with the West. By the seventies, it was basic needs. Later, emphasis shifted to markets. But for some time now, the focus has been on poverty reduction with emphasis on achieving the MDGs. Within the mix, are the need to ensure good governance and facilitate building capacity and institutions. Throughout the currency of choice has been GDP growth despite efforts of institutions such as the UNDP to change the focus to human development[26]. Despite the recognition of some of the other variables, the center of development attention remains growth. The effect is a focus on growth instead of transformation and on poverty management rather than on development.

A further misconception is the approach that treats development as a technical problem. In this regard development in Africa as seen by consultants, aid donors and African governments is often a gap to be filled rather than a socio-political economic process. Over time, it has been addressed as a savings gap, a human capital gap and now an infrastructure gap without actually engaging the population in a real conversation and process of solving their own problems. A holistic approach to development needs to recognize that transformation occurs (in the context of a multi-party electoral system) where a national agenda has been internalized by the population. Transformation is nation building and this requires a vision and a positive mobilization of the population.

6.1 Transformation versus growth

Economic growth which has been the focus of development efforts over the years is not transformational. A nation, as many African countries, have done at different points in time can achieve substantial growth for a period of time without achieving transformation. Examples of growth spurts which last for several years only to see a fall back or collapse is the story of many African countries.

[26] UNDP launched its now famous Human Development Reports in 1991 as a vehicle to promote a development paradigm focused on people.

In the sixties and early seventies, growth was essentially generalized in Africa. With experts declaring how African countries have better development prospects compared to East Asia. The growth which took place in Africa promptly collapsed in the late seventies as the underlying commodity boom ended. The growth was transient and not based on fundamental value proposition that can be sustained internally.

We are also witnessing the same growth today. The commodity market is booming. Price of commodities have increased substantially including products such as copper which were floundering in the 1980s as dematerialization in the product manufacturing process was seen as death knell for raw materials. But this was before China and India took off and began to drive a major demand for raw materials. But just as Africa witnessed growth collapse in the seventies, it is quite likely the current one may also be fleeting, as nations are now investing heavily in alternative energy and looking to develop substitutes for key materials.

At the Africa-wide level, what is clear is that when growth is essentially driven by outside factors it can also easily end. The current growth is externally driven and largely due to increasing price and demand for raw materials, including oil for the oil exporting states. But it can also be argued that reforms over the last two decades may help cushion growth impacts of any substantial fall in demand for and price of raw materials (McKinsey 2009).

Growth is important for transformation. But it is not enough[27]. Transformation requires much more. It goes beyond economic growth (Box 2). It is about building a new nation. It requires a move away from old assumptions and projecting the past to the future. It requires an audacity to want to effect a fundamental change. It is an internally driven development process focused on enhancing national capacity to compete and participate in the global economy. It necessitates national learning, technological upgrading, broad-based capacity building, innovations and building the right institutions to facilitate national goals. Above all, it requires national ownership and leadership of the development process. Such a transformative agenda must necessarily ensure participation and a broadly shared, bottom up development.

Another important aspect of transformation is the ability of the economy to withstand shock i.e. to be sustainable. This part of development is made possible via the creation of a diverse economy which rather than been dependent on a few commodities as are present day African

[27] Why is growth not enough? The structure of African economies is such that only a small part of the population is in the formal sector. In most countries this proportion is under 15 per cent. Growth based on this highly unequal structure does not generate sufficient employment to absorb the larger part of the labour force in the rural and urban informal sectors. In effect this kind of growth does not spread across the economy but remains in a formal economy enclave (Gĩthĩnji 2010b)

economies. Even when single commodities may be lucrative it is important for African states to diversify their economies in order to be in a position to survive the shocks from the constantly changing international environment.

Transformative development agenda is much more than growth and requires active foresight and strategic and visionary leadership. It is not simply about exploiting current advantage but creating and seizing opportunities in order to build competitive advantages in new industries and sectors. It is about building a self sustaining economy and society with an ambitious agenda for the future.

6.2 Poverty management and development

Development has centered on poverty management since the 1990s. It is as if African states and their development partners had given up on achieving development while PRSPs and now MDGs have essentially become the main framework for managing the development process in Africa. It is now expected by donor partners and development institutions. Poverty reduction strategy paper is now a prerequisite for support.

The problem is not the focus on poverty. It is the fact that development is and should be more than managing poverty or achieving a set of minimum standards in form of MDGs. Asking "how we might reduce poverty" is likely to elicit a different response from "how we might create wealth or transform our societies". One is dealing with symptoms of underdevelopment the other is visionary and strategic and it is focused on changing the game.

Can African countries change the game? Could the state begin to focus on how to transform their societies rather than primarily focusing on poverty alleviation? What will it take? What implications will such a change have for development strategy and policies?

A core requirement of development will be the need for Africa to put its house in order and focus on competing in the world markets. Not simply as exporters of raw materials, growing when there is boom and bursting when world economy slows down. In this new world, it will be important for African countries to change the game as it is been played. The current game is unfair, whether it is the huge role played by developed world in policies of African countries or the fact that the developed world plays by different rules. Fairness in the international trading system will be more important than aid. Building national capacities to compete in the global marketplace will suddenly become critical. Technological and capability upgrading will become a key element of the national agenda and tied to where African states have comparative

advantages. Exporting higher value added products is the key and not raw materials. Africa will be able to adopt similar rules like China insisting on value added before raw materials are exported. More importantly, we will move from dealing with symptoms of our problems to tackling the real fundamental challenges hindering real transformation in Africa.

Can this be realized? Yes. But it will require a different approach. We explore how this can be done but focusing on the issue of trade, industrialization and competitiveness. We specifically focus on the role of the state in promoting competitiveness and wherever possible highlight experiences from African countries.

Box 2: Have Fast Growers Achieved Transformation?

There is no better example to illustrate the differences between growth and transformation or poverty management and development than the realities of Ghana, Uganda, and Mauritius.

Ghana in the 1980s became the development poster child when it adopted the structural adjustment program and began a series of market-oriented policy reforms. Growth increased and stayed high for sustained period of time. Ghana became the 'success' story. Ghana was trumpeted and advertised as a role model by the international development agencies that other African countries should emulate.

The Uganda story was also quite similar. In 1986, Museveni was able to establish control over the country after years of civil war. The government began to implement the structural adjustment program under the guidance and support of the World Bank. The result was high growth and Uganda by the early 1990s became another 'success' story, an embodiment of the results of implementing structural adjustment programs.

The reality was that both countries were starting from initial conditions that were quite low. Uganda was reaping the benefits of a peace dividend following the end of most conflicts (except for the North with the continued war with the Lord Resistance Army) while Ghana was recovering from the economic crises which started since the 1970s.

As such, coming from a low point, both countries were able to grow rapidly, with Ghana focusing on exports of cocoa, coffee and other materials such as gold. In Uganda, the return of farmers to the land led to a major growth in the agricultural sector with positive feedback to the rest of economy and tea and other exports grew. The perceived success in both countries led to increased aid which also reinforced growth.

Yet, over two decades later, Ghana and Uganda continue to be confronted with challenges of poverty and underdevelopment. Neither has made any real progress in significantly upgrading their economies, growing their per-capital incomes or in moving up the value chain to produce higher value added products. Both continue to export primary products and raw materials. Ghana and Uganda are not engaged in the global marketplace in a way that will transform their economies in the near time. In short, Uganda and Ghana, despite achieving high growth rates have not been able to achieve economic transformation.

Mauritius, however, is a different case. Almost becoming a basket case in the 1970s with its sugar cane economy, Mauritius has been able to transform its economy. It is probably the only country in Africa that was able to maintain full employment in the 1990s, become a major source of FDI, and have successfully shifted first from sugar cane to textile and now building a basis for a knowledge-based IT industry and an international financial services center.

The major difference between Mauritius and many other countries in the continent, Ghana and Uganda included is strategy. Mauritius understood there was a need for change in the 1970s and when APC agreement came along they found the national wherewithal to exploit it and build a textile industry that is able to export its outputs to Europe in addition to tourism. The leadership understood the need for change, developed a national agenda, and proceeded with bringing all key stakeholders on board for implementation. Before the steam runs out from the export-led textile economy, Mauritius' leaders in 1993 to 1994, with the support of UNDP/African Futures, undertook a homegrown strategy formulation process which involved scenarios construction, building a shared national vision and formulating strategy. That strategic exercise led to the new agenda which Mauritius is currently implementing to become a hub

for IT and financial services. Mauritius is succeeding and the results are in the social and economic indicators which show profound progress; Mauritius' ranking in global competitiveness and doing business is among the best in Africa.

What the Ghana, Uganda and Mauritius examples show is that adjustment is not enough. Fast growth based on unsustainable factors only gives false hope. There is a need for a strategic agenda and a vision, the right leadership and a determination by the stakeholders to do what it takes to transform their nation. Without such concerted efforts, fast growth not based on endogenous factor does not portend long-term national competitiveness or transformation.

7. The role of the State in promoting competitiveness via policy and the African experience

The acceptance of the erroneous notion that the neoclassical theory of the market fully explains economic behavior and national development have systematically not allowed for a thorough assessment of the role of the developmental state. The 'myth of the markets' which can be argued to be 'ideologically-based' or 'politically-driven' have been used to devise and push development policies which have nothing much to do with reality on the ground or the history of wealth creation and development in advanced economies (Lazonick 2008; Lall 2000).

Recent re-examination of the Asian experience has tended to give more credit to the role of the state in Asia, starting from the case of Japan and then East Asian countries. The developmental state is essentially seen as an East Asian phenomenon. Africa was assumed not to have had developmental states given the current challenges facing the many states in the continent (Mkandawire 2001). The misreading of the African case is not the only mistake made. The role of developmental states has also been entirely neglected in the developed world, including the United States (Lazonick 2008). In fact, as pointed out by Ha Joon Chang (2003, 2007), everywhere development has taken place, from the industrialization of Europe to that of the East Asian Tigers the state has played an important role. Economic activities do not take place in isolation or in an isolated economic realm but within a national context in which the state plays a fundamental role. The ascendance of the neoclassical theory has led to a tendency to downplay the role of government consequently losing sight of the social conditions that form the essential basis for economic progress.

Consequently, policies have underperformed as market fetish brought about by ideological blinkers missed key lessons from Africa's own recent history and those of Asia and the advanced economies. It is this that led to weakening of the state in Africa at a time when the state needed to be strengthened. Strengthening the state must become a key policy objective following the events of last two decades on the continent.

7.1 Initial pre-conditions

Thus far, if we could summarize, it is clear that the African countries measured as a percentage of GDP are heavy traders. The challenge is that African countries have tended to specialize in products with limited potential. Can African countries successfully competitively change their export mix in today's hypercompetitive and globalized economy? For this to happen, the African states, as outlined above, will have to play critical developmental role. A thorough examination of the present conditions of the African state, and the context within it now operates will show that most African states now are not in a position to be successful developmentalist states for three main reasons.

State capacity is crucial

The first is that state capacity in the last twenty years or so has been thoroughly diminished in an environment where more is expected from the state as the global economic context became increasingly more challenging and complex for late starters to navigate. One of the conditionalities imposed on African states was the reduction of the size of the state. While we do not want to argue here that there was no need to rethink what the state did, the approach followed by donors and the International financial institutions has been to decimate the strength of the bureaucracy. Apart from a reduction in staff, the poor conditions that followed coupled with the demonization of the civil service as wasteful served to destroy the morale of many of the bureaucrats that were left. Under these conditions many of the top graduates from local universities did not go into state employment as they had in the first decade after independence but instead chose to look for private sector jobs or migrate abroad. We, therefore, cannot now simply turn around and say to the bureaucracy despite its weakened position here are vast new responsibilities for you.

States must be democratic

The second reason is that a developmentalist state would today have to act within the context of a multiparty electoral system and African nations often weighed down by vast inequities. Managing the "spoils" of creating an industrial class is vastly different than what the South East Asian states faced, where apart from in many instances being much more equal societies, dissension to the state and often to the nature of accumulation was met with brute force.

Third, there have been dramatic changes in the international environment in the last two decades. These include a much less sympathetic environment to national attempts to manage

markets and support local capital[28], the inter-linkages of production and financial circuits across the world that result in rapidly shifting conditions, and the rise of China and India as both opportunity and challenge (Geda 2008, Gĩthĩnji 2007). In order to deal with these challenges and opportunities, the bureaucracy need a whole new set of skills.

Let us first tackle the issues of elections and equity. Immediately after independence, the nationalism created by the anti-colonial struggle for a short while provided the fervour for working together across religion, class, ethnicity and region to help build the new nations. We believe this nationalism collapsed both because the new states failed to deliver the majority of the population to the Promised Land and also because this nationalism was forged in the cause against an enemy. Once that enemy disappeared, it was difficult to sustain. The inherited political institutions from the anti-colonial struggle and the administrative ones from the colonial regime were not designed for this task and often within them contained groups who had benefited from the old regime and did not want a more structural change other than the replacement of white bureaucrats and officers by black ones. Further, these two sets of institutions were at odds. The resolution of this tension was the absorption of the political institutions of the anti-colonial struggle into the more established institutions of the colonial now independent government.

To get past the failure of the inherited colonial state, African states to be successful have to be democratic. Democracy is going to have to be the building block for a new positive nationalism that brings the population together in the attempts to develop. Here, we mean more than simply carrying out free and fair elections. It must go beyond the merely legal and embrace the spirit of democracy. This means creating a space in which citizens of African nations feel that they all have equal political, economic and socio-cultural opportunities. Why is this important? It is important for two main reasons.

The first is that a developmental state picks winners and losers. In the context of highly unequal societies embedded with regional, ethnic, income and religious rifts picking winners (creating a new industrial class) is likely to lead to instability and to a politics that is based on getting into government in order to use government largess to select a different set of winners. As the creation of internationally competitive firms is not a five year project but actually a multi-decade project. It is essential that changes in government do not automatically result into a loss of support for the firms that had been picked by the outgoing government. In order for this to occur the selection made by governments past must be seen to be fair. This can only occur in an environment in which there is a fair degree of equity of opportunity. African states therefore must address issues of equity if they want the population to support the policies of a

[28] Given the recent financial meltdown of deregulated markets it may be the case that this too will change.

developmentalist state beyond each regime change. Part of this creation of equity requires the building of a broad pan ethnic and pan religious industrial class and also a broad working class equipped with the protections of a democratic society. In this regard, the lessons of Malaysia in dealing with ethnic inequality in the process of industrialization are worth examining, not necessarily to replicate but to inform. It goes without saying that equity will also enhance political stability. Lastly, equity also helps support broader internal markets which are important for nurturing companies before they can become internationally competitive.

Modern and capable bureaucracy

The second major change that must occur within the state is improvement of the bureaucracy. This must occur in a number of different ways. At the basic level, the bureaucracy must be recreated so that it has loyalty to the nation above individual and community. This means that apart from the political leadership imbuing this through leadership and vision, training of civil servants must take this seriously. In addition, African nations must once more ensure that civil servants have pride in their role as the hand maidens of industrialization and development. This can be done by making hiring more transparent. For example, national exams can be used for civil service appointment. The civil service also needs to be retrained to be a service oriented bureaucracy who sees as its goal the shepherding of the nation towards industrialization and the creation of an environment in which the citizens can thrive. This is completely different from the colonial inheritance which was of an administrative service created to regulate and control rather than serve.

Lastly, there is need for expanding the skill sets of the civil service. In a world in which trade agreements have become central for example, African bureaucracies need more lawyers who understand economics and more economists who understand law in order to ensure that their nations do not get dealt a raw deal. Along with this, the bureaucracy must shift from being an administrative apparatus implementing often donor dictated policy to a policy making and implementing body. That is to say the bureaucracy itself must become one of the centres of knowledge creation. This means redesigning government departments so that they have the ability to both assimilate outside research and also do some research themselves in addition to their administrative duties. This is particularly important given the fast changing nature of the world today. With specific regard to resources for both negotiation and research this provides an opportunity for shared resources across states in Africa as a way to minimize the immediate cost of constructing these capacities.

A clear framework for development

For states to be successful as agents of development, they must create a national framework for industrialization that both acts as a guide but can also be used to judge the success of the state in this task (UNIDO 2002/3). It must therefore have clear goals and specific targets. This will also serve the purpose of informing other players in the economy where the state is putting its resources and the sequencing thus allowing them to plan their investments. The tasks within the framework should include: assessing the capabilities and resources existing within the economy; encouraging collaboration between firms and educational institutions; assessing world markets and coordination between different sectors, research institutions and government.

7.2 The role of the state in Economic activity.

One of the great successes of neoliberalism in Africa was the demonization of the state as an active economic producer. In both the early period of independence in Africa and in all successful transformations elsewhere, states have played an active role as a regulator and also via either wholly owned financed or co-owned firms as a producer of goods and services. The reasons for the participation of the state in this manner were two fold. The first reason was the lack of private capital and capacity to initiate large scale industrial projects. This reason was similar across the world. The second reason was more specific to Africa and was the fear of an independent capitalist class (even in the context of building a capitalist economy) that may challenge the power of the state. In most instances, African countries attempted an import substituting industry that in many cases collapsed with the crisis of the mid 1970s and 1980s.

With the onset of neoliberalism as the guiding economic ideology, there was a push to reduce the role of the government both as regulator and as a producer of goods. This took place despite the success of state firms elsewhere and in some cases on the continent (Grosh 1992). During the period of structural adjustment three critical pillars of the programs were liberalization of the markets, privatization of commercial state firms and the application of user-fees for public services that remained such as health and education.

With the failure of the structural adjustment programs to resurrect growth, there has been a limited comeback of the state. There is now a new post-Washington consensus that accepts that the state is important in playing the following limited roles. The first is creating an environment in which the market works. That is, the creation of a legal infrastructure that

protects property rights. The second is in what were formally seen as public goods such as health, education and infrastructure. The provision of these is now seen as important for the proper functioning of the market and should be provided by the government though wherever possible by the private sector (Fine 2006).

This new consensus like the structural adjustment period tends to ignore actual examples of industrialization, the successes of East Asia (while paying lip service to the model), and even aspects of African economic history. In particular, it ignores the fact that some essential sectors are not profitable for private firms without massive intervention by the government even in leading market economies. Such examples include railways and education. It also ignores the fact that some of the leading firms in certain sectors are actually state firms. In the airline sector, among the most profitable and respected airlines in the world are Singapore Airlines and Emirates. Both are state owned enterprises. Further, many leading industrial companies were previously state companies and managed to grow in a protected environment as a protected state company. A prominent example of this is Embraer, the Brazilian aeronautic company which is one of the two largest producers of regional jets in the world.

They also ignore Africa's own examples. Botswana's success for example is built on a diamond industry that is a 50-50 partnership between the DeBeers Corporation and the government of Botswana. The two most profitable airlines in Africa, Ethiopian Airlines and Kenya Airways are state owned and a Public-private partnership, respectively. These airways are not just successful in the region but are profitable companies internationally. For example in 2005, Kenya Airways made a profit of $36 per passenger as compared to $7 for the most profitable US airways – Southwest. With a fleet of 26 planes Kenya Airways profit was US$65 Million as compared to Southwest which made just over US$400 million with over 500 planes. In that year, Kenya Airways was easily among the most profitable airlines in the world (Pollin *et al* (2008). Lastly, they ignore the fact that in some markets turning over the market at its inception to a private corporation can amount to turning over large parts of the national patrimony. Take for example mobile telephone service. The largest mobile phone company in Kenya now makes a yearly profit of over US$250 Million on a physical invest of around US$ 1 Billion. This company was until 2008 owned 60% per cent by the government in a Public-Private Partnership with Vodacom before the government divested 25 per cent of the shares to the public through the Nairobi Stock exchange for over US$850 Million. If the government had simply auctioned the airwaves in the late 1990s when the company was opened the value of the Kenyan market would have been well below what it received for these shares and the profits and taxes it has earned over the last ten or so years. We do not make these arguments to suggest that every public enterprise is successful but rather that governments should evaluate where and how they can be successful as they construct their industrial policy.

Given this history, the fact that other than in the mineral sector FDI is not going to African countries in any significant amount compared to other regions, and that if it did, it may crowd out private local investment, plus the small size of the African private sector, African countries should approach issues of investment and ownership with an open and pragmatic mind and not ideologically; not ruling in or out the private or the public sector *a priori.* In fact, we would encourage African governments to go through a thought exercise with each large investment possibility to decide what form of ownership the investment should take. We describe this process and summarize a generic series of steps in Figure 1. We should again emphasize that each country depending on its own capabilities will have to adjust such a framework to the local conditions.

On beginning discussion of starting up a new industry after establishing that at some level it would be viable, the first question that should be asked is whether the market can provide the good. If the market cannot provide the good or service and the good is adjudged to be necessary for the country then the government should explore whether there are public ways to provide the good or start the industry without it becoming a long term drain on the treasury. We must note here that very few companies turn a profit immediately and as we have mentioned before many of the leading companies of today from South East Asia spent many years as unprofitable companies supported by the government.

Even if the market can provide the good, the question of whether the level of provision and the distributional impacts are consistent with a long term sustainable pro-poor transformation of the economy is an important one. For example, higher education can be provided by the private sector. However the cost is prohibitive for the poor and because of the expense private higher education under provides seats in the sciences and technology and over provides them (relatively) in other areas. Even where like many African countries public universities have been forced to provide a parallel private track to help sustain themselves similar changes have occurred with university resources moving towards the areas that are most profitable and not those that are most needed by the country.

Figure 8: Government Decision Tree on Types of Ownership.

If the market outcome is satisfactory then the government should allow the market to provide the good. This does not mean that the government can necessarily wash its hands off the matter. The government should consider which different kinds of private ownership (individual private, publicly traded company, cooperatives) and what level of foreign ownership is compatible with its long term economic goals and legislate or not legislate accordingly.

If however the market outcome is not satisfactory, the government should examine whether via regulation or taxation and subsidy it can get a better outcome. It is the case however that tax and subsidy schemes are fairly complex and a country may not have the capacity to run one (Ha Joon Chang, 2007). If you consider that most African revenue services were built on taxing imports and exports you will realize the potential difficulty that may arise. If the government has the capacity to tax or subsidize to get the acceptable result then it should do so. If not, it should decide whether in this particular case it should wait till it has built that capacity or should it start the enterprise either as a public-private partnership or as a state company but with a clear plan on what conditions it would revert to the private sector.

In order to have a commercial focus, state ownership should not be run through ministries but through separate institutions created specifically for that purpose and which can be evaluated for their outcomes clearly. Such devices include but are not limited to sovereign funds, state development banks and state commercial holding companies.

To summarize our basic point is that historically the development of industries has taken many different forms of ownership. In attempting to build new industries, African government should approach ownership issues openly and pragmatically – wearing neither pro-private sector nor pro-public sector blinders.

7.3 What the state can do to enhance competitiveness and export-led growth

A key conclusion thus far is that the state matters. The state does have an important role to play in the economy. As outlined in earlier sections, African states have been developmental at different times in the past and would need to be in the future if the continent is to be able to compete in the global marketplace. At the minimum, this would require building effective and efficient state with the capacity and capabilities that are necessary and up to the task. The importance of the presence within the state of a shared national vision, a robust development

strategy, inclusiveness, and visionary leadership cannot be overstressed. They are what will provide the overarching framework and agenda that can galvanize the society towards realizing national objectives.

For such a developmental state to realize the goals of economic competitiveness and transformation, it must be able to create the conditions that will facilitate technological development and innovation, human capital development, infrastructure development and reduced cost of inputs, private sector development and the nurturing of institutions to promote competitiveness. The state must also be able to facilitate and mobilize savings and investments. These issues, in addition to the regional dimension that is crucial for Africa's competitiveness, and the nature of the capacity the state will need to facilitate economic competitiveness and transformation, are explored in the subsequent sections.

7.3.1 Technological development and innovation

The key to sustained growth, competitiveness and economic transformation is a progressive upgrade of national technological capability and ability to innovate. Since the industrial revolution nations that have joined the rank of developed countries have done so only through capability upgrading and innovation. Among the newly industrialized economies in Asia, including Korea, Taiwan, Singapore and Hong Kong, technological advance has been a key driving force, accounting for lion share of productivity growth (Kim and Nelson 2000).

Africa's case will not be different. African countries will have to find ways to acquire technology and develop the capacity for home-grown innovation. Unless African countries become innovative and produce increasingly technologically sophisticated products, it will be quite difficult to achieve sustained growth and economic transformation.

In this, the state has a critical role to play. Markets alone are not enough to facilitate technological development and innovation. The technological ascendance of the United States, the European nations and the Asian countries could not have happened without strong developmental states. Examining the knowledge intensive industries over the last century, Lazonick (2008) found that even in the United States where the ideology of 'free market' entrepreneurialism is most virulent, that the government played a key role from investment in the knowledge base, state sponsored protection of markets to intellectual property rights. Additionally, there were often extensive and persistent state subsidies to support the

development of key technologies and industrial sectors. In short, the engagement of the state has been crucial to success in all the other regions of the world.

The objective for the state in Africa, at least at present, is not simply to pursue technological development and innovation. But to develop policies that will facilitate technological upgrading starting with present products. For example, Kenya can utilize agriculture, especially its current success with small holder tea and horticulture sectors to move up the value chain. Kenya does not have to give up on its present agricultural success. But it must move higher up the value chain and also use its expertise to get into industrialization. An example of this is Starbucks which as a coffee company has also moved into manufacturing espresso machines rather than just selling coffee. Most plans for African industrialization have been very separate from their agricultural base or more generally their areas of comparative advantages. So instead of Kenya concentrating on small tractors that maybe used internally and exported to other African countries Kenya spent millions trying to start a car industry which is unable to take off. The tractor industry would have improved agriculture and given Kenya a basis for the production of motor vehicles at a later stage in the same way that some Asian countries started with motorcycles before cars. Or even more aptly in the same way that Toyota started off by producing silk spinning machinery for Japanese agriculture and only later became a car manufacturer.

So the aim of the state will be to formulate and implement appropriate policy for technology and innovation which will facilitate industrialization and upgrading in the value chain. A key lesson from the post-independence states in Africa was the lack of appropriate technology and industrialization policies. Policies to build new industries were construed overnight without regards to inherent present conditions and comparative advantages. In many cases, the focus was to build turn key industries while waiting or hoping for technology transfer. Looking towards the future, the state must employ strategies that have the most complementarities when it comes to technology development and innovation.

Beyond policy making to facilitate technology development and innovation, the state have a catalyst role to play. Technological development and innovation process are quite complex and requires development of technical constituencies and collaboration among various actors (Adesida 2005; Molina 1990). The state can facilitate the bringing together of actors, can provide grants, ensure that there are legal and institutional framework that is supportive, and in certain circumstances can participate in technology development.

Several knowledge based industries, computing, internet and electronic commerce took off with the support of the state. The development of the internet and electronic commerce in the United States is a case in point where government grants, tax subsidies, and support to industry networks played an important role. The current focus on the potential benefits of developing new energy sources has led to increasing support for state policies which will facilitate the development of renewable energy technologies. Fiscal incentives for the renewable energy sector are on top of the policy agenda currently in many industrialized countries from the US, Brazil, Europe to Japan. Singapore, for example, in recent years has begun pushing to become a world leader in advance technologies such as nano-technology. Among the policy tools it has adopted is state financing of scholarships for advanced degrees with commitment by recipients to work in Singapore for some years after graduation. Similarly for African countries, state engagement and support for technological development and innovation will be a crucial element of building competitive economies.

7.3.2 Nurturing institutions that promote competitiveness

The role of institutions in development has recently been brought to the fore with the realization that focusing on getting the prices right is not a sufficient or an adequate strategy for development. However, the question of appropriate institutions has become a key concern; epitomized under the rubric of 'good governance' which itself is problematic (UNCTAD 2007). The focus once more has been on omnibus 'good governance' rather than on building institutions which can facilitate national competitiveness.

The push to implement market friendly reforms in Africa which on paper should not be against building strong market supporting or complementing institutions have led to the neglect of building institutions which can support national competitiveness in most African countries. In many cases, there were deliberate efforts to end or weaken institutions which were established in the1960s. The reality though is that economic conditions are influenced by non-market factors; among of which are institutions (Granovetter 1985, 1992). Institutions constitute incentives and constraints and include norms, rules or organizations (Freeman 1988).

The first effort was the public administration which was seen as too big and inefficient. It became the first target. Major reform efforts from rightsizing to downsizing weakened and reduced the state capacity, especially public administration. The policies resulted in weak states in African countries at a time when there was a need for strong states (Olukoshi 2002; ECA 1989). The reality is that an effective public administration is needed for competitiveness.

It has significant impact, from the public administration's role in formulation and implementation of policies, design of incentives to support for entrepreneurs, negotiation of market access agreements, to export promotion and facilitation.

In the advanced economies several market supporting institutions exist (Lazonick 2008; Doner and Schneider 2000). Such institutions can facilitate national competitiveness. In the United States, for example, state institutions play a significant role in the drive to maintain the nation's pre-eminence in science and technological innovations. In addition to state institutions supporting capacity building, scientific research and technological development, there are many organizations which are neither hierarchy nor markets. Some of these organizations are membership-based with members including research institutions, private sector firms, and government. Others are jointly set up by firms and simply obtain grants and other forms of support from government.

An example of such institutions in the United States is Commerce Net which played a critical role in the early stages of electronic commerce with several technological innovations and corporate spin-offs in addition to facilitating the diffusion of e-commerce (Adesida 2005). Yet, it was a membership organization which included members from research institutions and private sector firms. It also received significant grants from the United States government (Adesida 2005).

In addition to institutions focused on advancing technologies and capacity building, which is crucial for national competitiveness, there are also business and entrepreneurial development organizations. In the United States, there is the Small Business Administration and the numerous state and municipal government economic development agencies whose mandates are to support entrepreneurial and business development. Despite the contrary policy advice by international development agencies, the state in the US and all the other advance economies are engaged in the market place through various institutional processes (Lazonick 2008).

Although institutions could be broadly defined as norms, laws or organizations that facilitate or constrain behaviour, our interest is in the institutions which facilitate or enhance national capacity to compete. Many African states in the 1960s created several market supporting and complementing institutions. Key example was in the agricultural sector in which extension services and agricultural marketing boards were established to help build to transform the

agricultural sector. Some of the extension activities engaged in included research, providing subsidies for inputs such as fertilizers, facilitating cooperation among farmers, and promoting learning. On the advice of international development agencies, most, if not all, of these agencies were closed simply because they did not fit the narrative. This is one of the key examples of throwing away the baby with the birth water. Yes, many of the agencies overreached and made mistakes. But what was needed were reforms and strengthening not complete neglect. This was particularly important given the state of African agriculture, the need to facilitate increased yields using modern methods, and the desire to build agro-processing industry. African countries must take another look at some of the early market supporting institutions, examine the mistakes made and to try to see how they can provide the important functions while correcting for market failures.

There is no other sector where this is needed more than agricultural sector. This is particularly important given that it is an area where Africa may have some comparative advantage and its importance for an eventual industrialization strategy. Additionally, the potential for income generation with exports of high value added products such as organic foods. Already, extensive agricultural studies are undertaken through international development efforts. However, very little of the results are applied on the ground. Extension services could be revived if only to disseminate the knowledge and facilitate learning by farmers. Such institutions could play a significant role in assisting African farmers to adopt modern methods, apply results of research findings, and allow farmers to share information, and, when possible, mechanized tools and resources which may be too expensive for one farmer.

Beyond extension services, there are several opportunities for market supporting and complementing institutions in Africa. It is clear that firms compete in the marketplace. But before the markets, there are extensive opportunities for collaboration among firms. This takes place as matter of routine in advanced economies, including the United States. Evidence of collaboration among firms exists. Innovation and the diffusion of complex technologies is one arena in which firms find ways to collaborate. In the United States, for example, it has been shown that firms come together under various institutional forms with support of the government to collaborate to undertake research, facilitate learning, set standards, advocate favourable policies, and share information despite having to compete in the marketplace under market supporting institutions (Adesida 2005).

Technological learning which is crucial for national capability building and consequently competitiveness does not occur in isolation. Intermediating institutions do emerge to address

key market failures and to undertake market complementing and supporting roles. For example, there are no advance economies today without a national organization set up explicitly to fund scientific and industrial research. An example is the National Science Foundation and the various research agencies in the United States funded by government. It will be important for African countries to rediscover neglected or closed national institutions which could play an important role in learning, technology development and adoption, and business and entrepreneurial development in order to facilitate building competitive economies. There is a need for deliberate efforts to build institutions, including technology institutes, extension services, industry groups, universities, productivity and training institutes, standards and quality organizations, and funding agencies for scientific and technological research (Box 1). The key is to ensure that lessons are learnt from the experience in Africa and other regions. The reality is that the market needs support not only because there are extensive market failures but also because economies do not exist in isolation.

Box 3: Competitiveness Enhancing Institutions - Some Examples

The correct reading of the experiences of the developed economies whether in Europe or in the Americas and the recent rise of the East and South Asian countries must highlight the importance of a class of institutions, focused primarily on enhancing national capabilities to effectively compete in the global marketplace. Within country, and from country to country, these institutions differ with respect to their orientation, mission, strategies and approaches. However, what ties them together is emphasis on addressing national constraints and upgrading national capabilities in order to facilitate economic competitiveness and transformation.

In Africa, early efforts to build similar institutions were either still born or set aside to decline in the era of structural adjustments. Although newer institutions have and are now emerging in the continent, for many, the lack of resources and the lack of a clearly defined agenda within a cohesive or a comprehensive framework for economic transformation have not been helpful. Examples include national productivity centres, trade and investment promotion institutions, private sector development agencies, technology and innovation promotion institutes, and free trade zones.

When Hong Kong, for example, became concerned that the territory was falling behind the other newly industrializing economies (NIEs) in the development and application of technologies, the government co-sponsored with the private sector institutions such as the Trade Development Council, Hong Kong Productivity Council, and Hong Kong Quality Assurance Agency. The government also established the first standards and testing laboratory which is now managed by the private sector. These efforts were meant to ensure that the territory's firms received technology support services and that they are able to compete. Among the activities offered by these institutions at the time, include (a) the

provision of information on international standards, (b) metrology, (c) laboratory accreditation scheme, (d) productivity and quality consultancy, and (e) quality assurance. These and other services were heavily subsidized by the government to ensure that national firms are able to compete in the global marketplace.

Singapore's government through the Singapore Institute of Standards and Industrial Research (SISIR) was able to push for quality standards. Standards setting were used by the government as part of national policy to upgrade quality and reliability. The functions performed by SISIR include metrology, standards setting, laboratory accreditation, testing facilities, and some product design and development. The government effectively deployed standards setting to prompt technology upgrading by local firms and to reduce low quality imports. Overtime, the private sector have set up institutions to also carry out testing services while government has fostered the development of productivity and quality management consultant services through cost sharing. This, however, is not limited to Asia.

A European example is Ireland. Ireland's spectacular economic success over the last two decades before the current downturn is partly due to creative government policies which included establishment of capability upgrading institutions to facilitate competitiveness. Enterprise Ireland is a merger of some of these institutions—trade promotion body, enterprise development agency and technology support agency—in 1998. Although Enterprise Ireland continues to have sister institutions such as IDA Ireland, Country Enterprise Boards, Irish Food Board, and Irish Fisheries Board that are involved in industrial development, the merger has created a one-stop-shop for enterprise development, with a vision to transform Irish industry. Among Enterprise Ireland's support activities to companies are (a) business strategy, (b) finance, (c) research, development and design, (d) production, (e) marketing and international sales, and (f) human resources. Enterprise Ireland works with firms to achieve export sales, invest in research and innovation, and compete through enhancing productivity. Its programs and support role is quite varied, including developing strategies for building Ireland's knowledge economy. Its efforts to capture, protect and commercialize ideas and know-how include building links between small businesses and knowledge providers, supporting campus incubation, funding industry and university/technical institutes led research, and facilitating collaborative research between companies and educational institutions. Enterprise Ireland has over 30 offices internationally and some of which serves as incubators for Irish firms hoping to expand to new markets in addition to promoting Irish exports and facilitating investment by world class firms in Ireland.

Whether it is the Irish, Singaporean or Hong Kong examples, various institutions are meant to upgrade national capabilities and assist firms to compete in the global marketplace. This requires more than investment promotion. It must include efforts to build human capital and national capabilities and put in place systems to promote quality and reliable products. Within the African continent, the Mauritius' National Productivity and Competitiveness Council (NPCC), which became operational in May 2000, stands out.

NPCC was created due to the realization that Mauritius needs to be better prepared to face the emerging challenges of a rapidly globalizing and highly competitive economy. Its core objective is the development of a strong culture for productivity to foster industry and national competitiveness. Since its inception, NPCC has focused on promoting innovation, promoting entrepreneurship through networking, promoting technology transfer through collaboration, developing competencies for empowerment through knowledge development and sharing, promoting models of excellence through benchmarking, promoting capacity building (skills and competencies) through a productivity academy, improving corporate productivity through better management and labour relations, promoting civic responsibility, facilitating national dialogue on productivity and competitiveness, and promoting team work and social values in education system and community. NPCC's mandate is ambitious. Its aim is to facilitate change and contribute to national transformation with respect to building a new ethos for productivity and competitiveness. As such, it intervenes at various levels: individual, community, firm and national levels. Building social capital is a key element of its interventions. Among the programs which it is implementing are a mass computer proficiency program (CPP) and the computing core certification with the goal of ensuring that all Mauritians are computer literate and proficient. In the same ambit, NPCC also has a program to teach English language literacy using IT. NPCC key thrusts or thematic areas include innovation, empowerment, best practices, productivity and competitiveness, and communication. Although the NPCC is relatively new, it is having impacts and has become a critical element of the government's economic transformation strategy to build a knowledge-based service economy which is a hub/gateway between Africa and Asia.

African countries need institutions in this light. That is, institutions which can focus on upgrading national capabilities. Such institutions must help in organizing and supporting national firms to compete in the global marketplace. However, each country must be pragmatic and ensure that such institutions are context specific and be in partnership with the private sector and civil society. Each country should ensure that their capacity upgrading institutions for competiveness must (a) have a clear mission that fits within a comprehensive national strategy and development framework, (b) foster collaboration between stakeholders (e.g. collaborative research and learning between educational/research institutes and firms), (c) promote partnering by government with private sector when appropriate to overcome key constraints (e.g. cost sharing or matching grants to provide consultants and knowledge to firms), (d) focus on developing firm capabilities (particularly in areas of improving productivity, quality and reliability), (e) support for innovation (through for example assisting firms to find resources to develop innovative ideas), and (f) provide market intelligence (that is, help firms to understand foreign markets and provide support for international marketing). Moreover, for such institutions to be effective, they must be empowered, fully resourced, and be guided by meritocracy.

7.3. 3 Converting constraints to strengths and exporting to African markets

In general, African producers tend to send most of their exports to their former colonial powers and other industrial countries. Inter-African trade tends to be a small part of exports for most countries. This structure of trade means that many African-producers may actually be missing out on export opportunities in markets in which they may be most competitive for the following reasons. Many African countries face similar climatic and geographic conditions so products that are suitable for one African market may be suitable for another. For example, most African countries are poorly electrified and are facing a water deficit. At the same time, most African countries have an abundant number of days of sunshine. Any country in Africa that developed inexpensive solar electricity systems and water saving technology would have a ready market in the rest of the continent. At present, when these technologies are used, they are imported from the West and thus often are at a price level not reachable for most African households. The model one can think of here is the development of drip irrigation in Israel or water saving toilets in Australia. In both cases, what were constraints were converted into opportunities and are now worldwide exports.

Another way that African countries are similar is in the use of existing technology, For example, in most African countries mobile telephones have become the primary means of communication and increasingly may also play important roles in finance and retailing of goods. Because the mobile telephones used in Africa have to be relatively inexpensive, their processing power tends to be lower than those produced for the major markets. This also means that there are few applications being developed for them because the market in Africa is relatively small compared to the rest of the world. However, in Nairobi for example, a group of young Kenyan engineers and software enthusiasts have been developing programs for use on local mobile phones. A group of 600 of them have recently come together in a collaboration named Skunk works. Recently Google has recognized the potential here and has begun to actively collaborate with them. One of the characteristics of the programs coming out of this group is that the programs they develop require less processing power and are more efficient than those developed in the West (Zachary, G. 2008), The constraints faced by these programmers has resulted in them producing products with an advantage in the African market and potentially in the future for the world market.

One way that governments can support the efforts of local innovators is via local procurement. For example, Kenya's Revenue Services recently bought new software to run the collection of taxes. To its credit, rather than buy off the shelf western technology which may be inappropriate, it purchased technology from Chile which it argued faced similar conditions to those prevailing in Kenya. On the other hand, the government may have missed an opportunity

to develop the local software industry by not seeking to collaborate with local producers to create a Kenyan product which might have in future been sold to other African countries. However all is not lost, if the Revenue Service made an agreement with the Chileans to allow for the local production of modules, in the future a product even more adapted to the African condition might be produced and owned jointly by the Chilean and Kenyan Revenue services.

Beyond constraints, African countries also have some similar cultural characteristics. Cultural products produced in one African market may have an advantage over products from other parts of the world. One such example is Nollywood, Nigeria's giant video producing industry. Many Nollywood products find their way across the continent and are played in informal film houses in many African urban centres. Because much of the industry from production to shows is relatively informal, Nigeria has probably missed opportunities to expand the industry and reap more from its existence.

The advantages of governments supporting the kind of examples we have mentioned are fourfold. One, because African markets are often underserved, pioneers in these markets will probably reap a premium return. Two, the closer distance in many instances may give African producers an advantage over producers from elsewhere. Third, African producers tend to have more local knowledge because of similarity of socio-economic characteristics, Lastly, producing for local and African markets gives African producers an opportunity to practice in less competitive markets. Potentially they can then turn the experience gained in the African market to an advantage in competing in international markets.

For African governments to support these efforts a number of things need to occur. One, African export promotion councils need to consider non-traditional exports to other African countries and push other governments to ease protocols of trade between African countries. Second, in the areas of cultural and intellectual products, African countries need to work out an African regime of property rights that maintains access of these products across the continent but also ensures the producers are adequately compensated.

Promoting intra-African or regional trade has to be seen as a key element of Africa´s industrialisation strategy. The reality is that the US and Western markets may not be as available for late industrialising countries in Africa as they were for the Asian NICs. It will therefore be important for policy makers in Africa and firms to begin to focus on developing and facilitating intra African trade. This is crucial in a changing and less favourable world of today.

7.3. 4 Human capital development

Closely tied to the technological development and innovation is the need for human capacity development. Capacity formation in technology, science and engineering, business, management, law, finance, and the various other professions is critical for national competitiveness. Increasing capacity and quality of the labour force is an essential element in productivity increases and national competitiveness. Without a trained labour force, both highly-skilled and semi-skilled, it is essentially impossible to lay the necessary foundation for competitiveness and transformation. For example, recent work by Geda (2008) suggests that among African countries those most likely to climb the technology ladder in the wake of Chinese development are countries with relatively high human capital in the African context, such as South Africa.

The progress made in Africa in the sixties and early seventies was due in part to the rapid expansion of educational opportunities and training. It was in this period that several centres of excellence evolved in Africa, including Makerere University in Uganda and University of Ibadan in Nigeria. These and other educational institutions provided a fertile ground for training while many others were sent to European and American Universities.

But the crises that engulfed Africa following the growth collapse of the seventies also affected the educational institutions. First, the reduced income made it difficult for African countries to fund education and other social sectors as in previous years. Second, the international development community erroneously encouraged African governments' relative neglect of higher education because of a belief that primary and secondary schooling are more important than tertiary education for poverty reduction. Importantly, funding support from the development agencies declined in accordance with their policy advice. Between 1985 and 1989, 17 per cent of the World Bank's worldwide education-sector spending was on higher education while from 1995 to 1999, the proportion allotted to higher education declined to just 7 per cent (Bloom et al 2006).

Higher education in Africa continues to suffer because of such reductions in spending. It has resulted in decline in education quality at all levels and overcrowded schools and universities that are now only shadows of what they were in the past. Academic research output in the region is among the lowest in the world. Africa simply does not register much in key areas: number of publications, scientific and technological discoveries, and patents. There is a need for reversal if Africa is going to be able to build the necessary capacity to address its internal challenges and become competitive in international markets.

In the emerging knowledge-based competition within a more complex and globalizing economy, learning has become more rather than less important. In fact, it is the currency of choice not natural resources. Education both basic and tertiary provides the basis for building national capabilities to improve productivity and national competitiveness. The learning which is needed is more than formal education; it also include on the job learning, training and experimentation (Lundvall 1995).

The Asian experience highlights the importance of education and learning, in general, for competitiveness and national transformation. The rapid rise by the Asian tigers and lately India and China, among other factors, is fuelled by the emphasis placed on increasing enrolments, quality of schooling, and technical education, including science and technology. The Asian experience as well as others before highlights the importance of technical education; these experiences also point to the need for learning that takes place in the non-traditional educational environment such as on the job (Lall 1996).

Expanding tertiary technical education will facilitate faster technological catch-up and improve African countries' ability to maximize their outputs. Bloom et al (2006) suggested that Sub-Saharan Africa's production level is about 23 per cent below its production possibility frontier, and that a one-year increase in the tertiary education stock would raise the long run steady-state level of African GDP per capita due to factor inputs by 12.2%.

Such studies and recent examples from Asia suggest that African countries will have to put human capital development at the centre of their national agendas. However, the education and learning to be promoted must be relevant to the unique circumstances and contexts in which African countries must operate. African nations must do away with isolated educational institutions and universities which are divorced from the day-to-day challenges facing people on the continent. An education and learning agenda aimed at upgrading national capabilities is a key requirement; such a policy must be robust and cognizant of the fact that many learning requirements involve serious market failures and must take into account the basic fact that important learning which have tremendous implications for competitiveness and transformation does not take place in formal educational settings (Lall 2000; Pack 2000).

However, we should note here that the role of the government does not end simply with training. For a successful industrial sector to come into being and be sustained this human capital must be managed and brought into contact with capital. There are two main challenges that African governments face in this regard. The first is that even with the present-inadequate

level of tertiary institution graduates, there are often not enough opportunities for these graduates in the economy. The second which is related to the first issue, is often a significant proportion of the most internationally competitive graduates leave the country after receiving the training (often at public expense) for greener pastures; the so called brain drain. African countries must come up with policies that address these issues while improving the International competitiveness of the nation as a whole. Below, we briefly suggest some approaches for farther exploration.

The first problem that we must tackle is unemployment and underemployment among graduates of tertiary institutions. African states should consider ways of employing these graduates as creators of employment for others; this could be done by the government creating an entrepreneurship fund that does two things. The first would be to place graduates into internships or apprentices within existing firms. The second would be to provide seed capital for projects proposed by these graduates that would employ at least say five people. Such a plan could run as follows. Every year, recent graduates of tertiary Institutions would be invited to submit business proposals along with suggestions of what existing companies may provide a profitable apprentice. A national board composed of members of key ministries and leading industrialists would judge the proposals and a subset would be selected for apprenticeship within existing companies. Companies could be encouraged to participate via tax credits. Based on the internship and revised business plans a subset of projects would be funded for a fixed period (see Box 4 on Linking Human Capital, Technological Development, Entrepreneurship and Employment). The funding while subsidized would be channelled through commercial banks and thus go through the standard vetting for a business project (see Pollin *et al* (2008) for an example of Bank based subsidized lending in the context of employment creation).

Box 4: Linking Human Capital, Technological Development, Entrepreneurship and Employment

As we have noted elsewhere in this report that African countries do not only face the problem of expanding their use of technology, they also face problems of underemployment and unemployment as well as weak private sectors. In building an export-led industrial sector that harnesses technology we must ensure that this sector is also an employment creating sector. Otherwise, the benefits of the sector will be limited to a small percentage of the African population in the same way that Africa's present export sector tend to be made up of small export enclaves.

The state has an important coordinating and creative role to play in this process. This coordinating process involves linking research institutions with companies and ensuring that forward and backward linkages between companies also occur. There are a number of steps that the state can take to enhance these linkages. These could be done by an Independent Industrial agency, similar to the Taiwanese Industrial Research Bureau for example. Within the context of a national framework on technology and development, the agency would carry out a regular analysis of existing industries with the explicit purpose of identifying backward and forward linkages.

The analysis would identify whether there were firms that could be linked into each others' supply chains and what the constraints were. It would also identify inputs into various industries and examine whether the capacity to produce those locally existed in the country. In the case where it identified firms that might feed into each others' supply chains it would be tasked with assisting the companies coordinate with the aim of enhancing backward and forward linkages in the economy. In the case where no suppliers existed for a particular product line, it would be tasked with sharing with the research institutions its finding and along with a financing agency such as a development bank to assist in ensuring the creation of products and the incubation of firms to provide them along the lines we have described above in the text. Namely assisting graduates from tertiary education institutions to both develop businesses producing the products while also creating employment. It could also bring together joint ventures between foreign investors and local entrepreneurs to fill this gap.

The second concern is the brain drain. The brain drain cannot be controlled by purely restrictive measures and governments instead should focus mostly on how to take advantage of it as Taiwan did during its development and countries such as China and India are also doing. That said, since publicly subsidized education at the tertiary level is expensive, the government should create a system where this investment is paid back. This can be done, as is often done in the West and now in some African countries, by treating the government support of students as a loan to be paid back on employment. Students employed within the country over a certain period would pay back a discounted amount as their service would be considered as part of their repayment. Students who chose to leave the country would be expected to repay at higher rates. This of course would mean that the university funding system would need to create a fairly sophisticated machinery to track and follow graduates.

Beyond this, the governments should look at their citizens in the diaspora as a resource. They are a resource in three different ways. The first is now widely recognized and is the remittances that expatriate African populations send back to their home countries. At present most of these remittances are sent to individual families and are not available to be leveraged for wider public use. African governments should consider different ways of attracting more remittances

and using those coming in ways that impact a broader population. One often cited method is the creation of bonds for infrastructural development. Another may be to follow Mexico's lead. Here funds remitted to local communities expressly for the use of public infrastructure such as a school are matched by a government contribution to the same project. Other option might be to solicit funds for the entrepreneurship fund suggested above by also creating a role for the expatriate community to participate in the creation of the new companies.

The second way that the expatriate community is a resource is in terms of knowledge remittances. This is at two levels. The first is the specific human capital that the expatriates have built via training and working in industrialized countries. The second is the knowledge of the markets of industrialized countries. This is often a major constraint for small firms that desire to export. African governments should find ways of using both sets of knowledge. This can be done in a number of different ways. The first is the use of African nationals where they are qualified for the numerous consultancies done for local projects. These consultants beyond their technical expertise would often bring commitment and inside knowledge that foreign consultant's lack. Though we are uncomfortable suggesting a different pay scale we suspect in open bidding of jobs the African consultants would underbid foreign consultants because some of the remuneration would be effectively in the opportunity to assist one's own country to change for the better.

A recent example of this is the case of the Ethiopian Telecommunications Corporation project to upgrade the telecom infrastructure to Next Generation Network (NGN). After an open global call for consultants the Corporation selected an Ethiopian consultant who resides abroad, but happened to be in the country working on another project. He accepted the job at roughly half of what the going rates would be for a consultant from the West. The consultant led the corporation through negotiation for purchase of the hardware and software solutions and will lead a review to ensure that the proposed products and prices are justified. He estimates that so far he has saved the Corporation literally a multiple of millions the size of his salary. He has also agreed to extend his contract for one year. In conversation, he noted his willingness to work for other African countries at a lower rate than what would be the standard rate-say about three quarters the going rate. While this is a single example it points to the potential savings that African states can actively make by aggressively trying to use the expertise of the African Diaspora[29].

A first step in this direction would be the creation of national skills banks by African countries. If this skill bank was created under the auspices of a regional African institution then it could

[29] Based on interview with consultant.

advertise a preference in jobs for African nationals as the employment agencies of western governments and regional agencies. The cost of such an endeavour would be relatively low. It essentially involves setting up a web page and the associated databank. It success would be dependent on the aggressiveness of use by African states. Governments for example may require ministries to check the bank first for potential consultants before offering the jobs to others. Beyond existing consultancies, African countries should endeavour via the national skills bank to put local firms into contact with nationals who have skills that the firms may need. A third program that would support the use of expatriate nationals would be the creation of visitation programs similar to the Fulbright program operated by the department of state in the USA or TOKTEN by the UNDP. African countries should consider exploring whether they could attract their expatriate nationals to return home for short stays (6 months to a year) to engage in working and training locals at home. Because most of the highly sought skills are often in professions that would actually look favourably on such experiences, the cost may not be prohibitive as the expatriate while contributing towards training in their home countries enhances their own skills by working in a different environment. Countries that do this may find that this actually may become the basis of attracting individuals to return home permanently. With respect to the knowledge that African nationals have of the countries they live in, African export councils need to consider ways in which they can tap into this expertise in order to furnish it to local exporters.

The last way that expatriate nationals are a resource is that they are a readymade market for culturally specific country exports such as foods, artistic products and clothes (Box 5). Companies in African countries can begin to learn about international export markets by first exporting to their own nationals abroad. Often these nationals will introduce other people in the markets that they live to the products of their home country. The exports to these nationals would thus be a beach head for an expansion of export markets in the countries in which they live.

Box 5: Resources of the African Diaspora - the Case of the USA

We have argued that African governments should try and use both the Human Capital and the wealth of the African diaspora as an additional resource in its quest for development. We present below a few facts on this community in the USA (based on 1999 census) to give some indication of the potential resources available. Since the USA has for a long time been a more difficult place to migrate to from Africa these resources are an underestimate so to say of the potential worldwide resources of the African diaspora. Further, as immigration from Africa expanded in the 1990s, the numbers today would be much larger. In 1999, there was a total of just under nine hundred thousand individuals born in Africa living in the

USA[30]. Sixty eight per cent of this group were in their prime working age, namely between 25 and 54 years of age. This group is also a particular well endowed group particularly in terms of education and also income. Forty three per cent of this group had at least a bachelors degree, a higher percentage than the general population and any African country. Of this group with a college education just slightly under half also had a graduate or professional degree. The median household income was just over forty one thousand dollars and the per capita income was just over twenty five thousand dollars. Based on this the total income of this population was close to twenty three billion dollars which in 1999 would be the equivalent of the third largest African economy with only South Africa and Nigeria being larger. Given the increases in income in the USA during this period and the increase in African migration, we would expect that today, both in income and human capital, the numbers would be even larger. As we note in the text, this population and its counterpart in other parts of the world outside Africa are a potential resource for Africa's development, as sources of human capital, capital and as market.

Source: Adapted from US Census Bureau, 1999 Census.

It is through the upgrading of national capabilities via robust human capital development and management that any country can make it in today's complex world. It is critical for acquisition of technological know-how, innovation, and sustained productivity increases which are necessary for national competitiveness and transformation.

7.3.5 Infrastructure and Reduced cost of inputs:

Recent competitiveness studies or doing business reports all show how poor African countries ranked (World Bank 2008, World Economic Forum 2008). For the doing business ranking, at 27th, Mauritius is the only African country that made it among the first 30 countries; next is South Africa at 35th and Botswana at 51st; the rest of the countries are found mostly at the bottom (World Bank 2008). The poor performance whether in rakings on competitiveness or doing business indicators are linked with the poor state of infrastructure in the continent and the high cost of inputs from finance, labour, telecommunication, energy to transportation. The challenge is that with the rising cost of oil these costs are increasing.

Despite the concerted efforts to rapidly build the socioeconomic infrastructure in Africa since independence, progress has been rather slow. In many parts of the continent the low level of

[30] These numbers include North Africa. Migration from North Africa based on racial categories is roughly 23 per cent of the total African migrant community. If you then therefore assumed that Sub-Saharan Africa had access to only 77 per cent of the stock of African migrants none of our facts above would be substantially changed.

infrastructure development from bad roads, lack of power, to inadequate water supplies has become a key constraint to national competitiveness and made doing business in African countries a very expensive proposition. Underdeveloped financial markets and the consequent lack of access to financing continue to be a key challenge facing African economies. The banking sector is averse to providing long-term financing while exorbitant interest rates and collaterals hinder access to short-term financing. Coupled with this is the FDI which are not forthcoming despite years of adjustment and reforms. The small percentage of World FDI that does make it to Africa is destined mostly for the resource extraction sector. Lately, the telecommunication sector has been attracting some of the FDI. But most of the investment goes to only a few countries.

Significant improvement in Africa's competitiveness will require major improvements in infrastructure and reduction in the cost of inputs, including finance. These two factors are to a large extent interlinked. Inadequate infrastructure is a key element of the high costs of inputs. The lack of competition and inadequate regulatory framework also makes core sectors such as telecommunication quite expensive while the reliance on fossils for energy and the inability to build efficient and effective markets for energy makes the sector one of the key bottlenecks.

A regional approach provides the best way forward in addressing infrastructure issues and the consequent high costs. Africa needs to take a look at the approach to regional integration. Duplicating the European experience is not suitable and does not allow the continent to focus on addressing key problems. This is especially critical for the small countries. True regional integration in Africa will allow for the elimination of national licenses for telecommunication and energy, allowing firms to, for example, operate on a regional basis. This will increase market size, facilitate economies of scale, attract investors and allow for entry of multiple firms and competition. In areas such as telecommunication and energy this should lead to cost reduction.

It will also be important to address the challenges of the financial sector and to increase access to financing. African countries and firms need new ways to obtain access to financing. A recent World Bank (2008) study suggested that many African countries may be more creditworthy than previously believed. To finance infrastructure development and increase private sector access to financing, it will be important to facilitate both sovereign and corporate ratings, support the development of financial markets including regional stock exchanges, credit enhancement through guarantee instruments provided by multilateral aid agencies, and international financing facilities. African countries could also potentially raise substantial amount of funds by reducing the cost of international migrant remittances, issuing Diaspora bonds, and securitizing future remittances (World Bank 2008).

In addition to enhancing access to financing, the regulatory and policy environment will also need to be improved to facilitate the development of infrastructure, access to financing and reduce the cost of inputs which are critical to the competitiveness of African countries.

Box 6: Infrastructure the Achilles heel for Africa's competitiveness

Inadequacies and high costs of infrastructure remain major hindrances to the competitiveness of African countries despite progress in recent years. In virtually all areas, from power, transportation (roads, rail, air and sea), water, to telecommunication the continent is facing daunting challenges. The consequences of the inadequate response are high costs which impacts on Africa's competitiveness negatively. Beyond that, the infrastructure challenge lowers economic growth, employment opportunities, and quality of life in Sub-Saharan Africa.

Only about 20 percent of the population has access to power in Sub-Saharan Africa. A recent study by the World Bank observes that the power sector in Sub-Saharan Africa is characterized by "low capacity, low connection rates, high prices, and poor reliability." The same study concluded that the region needs about $43 billion in new investment per year from 2006 to 2016. This is due to the neglect of the power sector over the years. For example, as of 2005, the installed power generation capacity of the 48 Sub-Saharan countries was 68GW which is comparable to that of Spain. If South Africa is removed what is left for the remaining 47 countries is only 28GW. Estimate is that about 25 percent of the already low capacity is unavailable due to the aging of the power plants and poor maintenance. The outcome is power shortages that are unrivalled in other continents.

The transport sector is similar in many ways. The national road density in the continent is lower than that in other developing regions. There are three major problems facing the road transport sector. First, Africa is handicapped by very high road-freight tariffs. Second, the reforms to the interurban road network which has taken place in recent years have had limited impact on rural roads with only 40 percent of rural inhabitants living within two kilometres of an all-season road. This is despite the importance of agriculture as an engine of growth. The lack of good, all weather roads continues to be detrimental and hinder farmers' ability to get their produce from farms to market. Third, Africa's rapidly growing cities face major mobility problems, from unreliability, high costs, to safety.

Although infrastructure remains a challenge for air transport, it is not at the heart of the problem. Better management of the sector, modest investments in parallel runways, and improved traffic handling should lead to some improvements. The main challenges include regulatory, safety issues with respect to poor air traffic control and unsafe aircrafts, and the cost of air travel.

Only a few ports are large by world standards despite their proliferation in Sub-Saharan Africa. In addition to small size, African ports are generally inefficient and poorly equipped. As a result, the ports are unable to handle the largest of the new generation of ships. Additionally, the region is mostly unprepared for the dramatic changes in trade and shipping

patterns now occurring. Coupled with these is the fact that port planning and management are outdated in the region. The results are inadequate capacity and high dwell and wait times for vessels, leading to delays, high costs and reduced competitiveness.

The infrastructure sector which has witnessed the most change and rapid advances is telecommunications. It has essentially been transformed by the reforms embarked upon in the 1990s with advent of the mobile phone in Africa. The mobile revolution has increased access and broadened penetration to unprecedented levels, including in the rural areas. The pay as you go model has allowed the poor to be included in the change taking place. Yet, despite transforming large part of the ICT sector, significant challenges remain. These include the need to extend the benefits to all, especially in the rural areas, ensuring that the reform agenda leads to investment and service delivery for Internet connectivity and services, and reducing the cost of Internet services and long distance calls to consumers.

Although there are variations among countries, infrastructure remains a major challenge hindering the competitiveness of Sub-Saharan African countries. As suggested in the other parts of this essay, the key is pragmatism by countries to develop context specific responses to their infrastructure challenge. In some respects, introducing more market and competition may be a solution, in other it may be the need for improved regulatory framework and oversight. Importantly, there is a need for improved planning and management of the infrastructure sector. It will require evolving infrastructure strategy which is better aligned with national agenda.

Attracting investment in the sector will call for overcoming the small national markets in favour of regional approaches to addressing some of the infrastructure problems. Cooperation at the regional or sub-regional levels will be crucial in order to facilitate ease of access, increase productivity and competitiveness. This might include institutional cooperation with respect to regulation, coordinating incentives at the regional or sub-regional levels, or jointly investing to build infrastructure at regional or sub-regional levels. This can even take place among a group of countries. An example could include allowing firms to build and provide services across countries. This will allow for economies of scale, increased investment and will contribute significantly to promoting regional economic integration.

The good thing is that examples already exist in the Africa region. There is simply a need to multiply such efforts. In 1997, Mali, Mauritania, and Senegal launched a hydropower development project. The project lowered costs and improved access, reliability, and quality of electricity supply for the three countries. It is now both easier and cheaper to make calls among East Africa countries simply because of the relationship (same group owned mobile firms in the different countries) between national mobile companies across borders. In fact, travellers can go across countries using the same mobile, same number, and even add credit to their pay as you go phones using cards purchased locally. This is a beginning. Ultimately, a company should be allowed to build their network and simply operate across countries as if it is one market.

***Source**: The diagnosis draws heavily from the World Bank's Africa infrastructure study. World Bank (XXXX)*

7.3.6 Private sector development:

Despite the need and importance of developmental states, African countries will only be able to compete if they can build strong private sectors. It is firms that compete in the global marketplace not governments or countries. What the state can do is to provide the enabling environment and the institutional support to ensure that the private sector has what it takes to compete effectively.

These factors might include ensuring that the rules are business friendly and firms are not handicapped against their competitors around the world. In fact, the state must see its key role as supporting and providing the facilitative environment for the private sector to create shared wealth and broad based growth. Part of providing an enabling environment is not limited to policy but implementing concrete actions.

These will include negotiating market access and trade deals, pushing for favourable international environment, and creating and supporting institutions whose focus is business and entrepreneurial development. Private sector development agencies that could facilitate capacity building, professional training, productivity and quality improvement, learning, business mentoring, and export promotion are important elements of what should constitute the intervention by African governments. Such institutions must be able to facilitate access to finance, markets and business development skills.

One specific area that governments must pay more attention to in an export led industrial policy is market-information for exports. Traditionally, most of the literature has focused on the difficulty of obtaining and adopting technology. It is the case however that, even for traditional exports, market information is a significant hurdle especially for small producers. The gains to be made by having the appropriate information are tremendous. Take, for example, the traditional export of coffee, arguably Ethiopia, Kenya and Tanzania produce are among the most sought after Arabica beans in the world. Despite the premium, these beans get rarely do African farmers get much more than US$ 1.50 for a pound of beans. On the other hand, once these beans are roasted and sold in the US, the retailers can command anything from approximately US$ 13 to over US$ 20 per pound for premium beans. While some of this gain is due to moving up the value chain, so is associated with transportation and-packaging costs, these costs do not amount close to the difference between the farm gate and the retail price. Another example is the classic Lamu furniture made in the coastal province of Kenya, while Lamu beds command less than US $1000 in Kenya, these same beds are sold for over US $7000 in New York City. Again the difference between what the producer gets and the retail price is far larger than the associated costs. In the case of the furniture, for example, a substantial

amount of the cost is transportation. The cost of a container from Mombasa to New York is less than US $2000. At that, the sale of a single bed covers the cost of a container of beds which would have numbered in the tens.

Box 7: Developing Small Scale Private Sector-Lessons from the Past

For African countries to be successful there are two important considerations that they must address. One, is they must take seriously lessons learned in their own histories. That is while there are only a few African countries that have been relatively successful at overall development, in practically every country there are successful individual projects that can be used as lessons. These lessons are particularly important because they give us concrete examples of what is possible within the context of individual African countries. Thus potentially they are replicable. Second, for African countries to transform successfully, while lowering poverty rates and creating wealth for the vast majority of the population; the small scale sector both in agriculture and the non-agricultural sector must play an important role. Below we briefly discuss the process in the small scale tea sector in Kenya that used a judicious mix of government, cooperative and private innovation and participation to create a thriving small holder tea sector.

Kenya today is the largest exporter of black tea in the world, the majority of which is produced on small holder farms. Not only is the country a large exporter it is also a quality leader. In most places in the world, tea is an estate crop due to the relative high capital intensity as compared to other crops, required in the form of curing and drying factories. The on-farm factory is crucial because picked tea has to be processed within 24 hours of picking if it is to retain its high quality. In Kenya, at independence, like most places in the world tea was mostly an estate settler crop with a small African sector of relatively large producers that had begun production under the Swynerton plan, a colonial agrarian policy designed to create an African middle class or yeomen farmer that would be supportive of colonial policy (Stern 1972). Under this policy the Kenya Tea Development Authority (KTDA) had been created. On independence the new government wanted to expand the activities of the KTDA to more African farmers and specifically to smaller scale farmers. Since tea was highly lucrative the government saw this as an opportunity for wealth building among the African small holders. Despite some initial resistance by international lenders the government was able to expand the tea planting and build new tea factories under the KTDA.

The KTDA immediately after independence was organized as a government parastatal charged with managing small holder tea production. Its duties included three key components: one, the expansion of small holder tea production by the provision of inputs,

seedlings and training; two, the provision of factory facilities in tea growing areas; and three the marketing of the tea once produced. The nature of tea production and the KTDA allowed for both upstream and downstream linkages that led to general improvements in tea growing areas. As tea needed to be processed within twenty four hours of picking and in order for the tea factories to be economically efficient they had to cover very large areas. KTDA therefore undertook the creation and maintenance of all weather roads in tea producing areas. These roads were not just a boon for the tea producers but for other commerce in the area. In each of the factories, KTDA created significant off-farm employment in the factory itself and in transportation. Lastly, it also created employment in its management and research and development sectors.

As a parastatal, KTDA was immensely successful. By taking advantage of returns to scale and rationalizing management it dropped unit costs of production between 1966 and 1988 by over 90 per cent (Grosh 1992). It was able to import fertilizers for tea farmers at prices which were below the market price for other farmers. At the present time, the savings made by tea farmers is approximately 15 per cent of market price. Further, it expanded tea production while maintaining quality and increasing productivity. Productivity growth was 3.5 per cent per annum while the area under cultivation expanded at the rate of 2.6 per cent per annum between 1976 and 2005. This included the period of the nineties when there was negative growth in the economy for some years (Pollin *et al* 2008).

As its tasks grew more complicated and the area of production grew, this challenged the capacity of the parastatal to maintain performance. KTDA was re-organized under the companies act at the beginning of the new millennium and new entities for tea research and development created. Despite the seeming privatization, what actually occurred was the creation of a giant network of farmers cooperatives (close to 400,000 farmers) run under the companies act. The reorganization created the following structure. All factories were owned by the local farmers in an area. These farmers then selected a board which in turn along with other factory board selected representatives for the KTDA board. The individual factories then contracted KTDA to manage their factories so that KTDA was responsible for all factories but answerable to local farmers for each factory. Thus KTDA is a joint farmer and government activity, with farmers appointing some board members while others are appointed by the government.

The results of the institutional innovations in KTDA over time have allowed for a thriving and expanding small holder tea sector even in times when the price of tea internationally has been falling. In 2006 KTDA managed 52 factories each with an average of 7600 farmers. The institutional form allowed for the following. First and foremost, it allowed for the exploitation of returns to scale in the purchase of inputs for smallholders and the factories. Further, it allowed the company to access cheap credit and choose between borrowing on local or international markets depending on the cost. Beyond these two services KTDA reaps the benefits of returns to scale in accounting, management and engineering across factories. Second, it has allowed the company to provide new services such as insurance at cost effective prices across its network. Third, the arrangement allows for the farmers voice to be heard at various levels and makes the larger corporation directly responsible to the

farmer for the management of the local factory. Fourth, through the farmer network and central depository system KTDA is able to lend at low transactions cost to farmers or contract other financial institutions to do the lending. Fifth, the company has been able to maintain high quality of product. Sixth, by being in charge of various factories and in contact with farmers across the country KTDA has facilitated learning across its networks. Best practices in one factory or one region are easily available for farmers and factories in other regions. Seventh because the benefits of tea production have accrued across many regions in the country, KTDA has maintained support across political regimes unlike other cash crops in Kenya. Lastly, the flexibility in institutional arrangement over time has allowed the small holder tea sector to continue expanding while remaining competitive. The success of KTDA has been such that large tea producers such as India and new tea producers such as Vietnam have sent delegations to Kenya to learn its practices.

The lessons from KTDA should not be seen simply as lessons narrowly for how to create a vibrant small holder cash crop sector. They can be expanded to other areas. For example, most African countries have vibrant local furniture makers that cater mostly to locals. In many instances, these furniture makers are small and produce uniquely African styles of furniture. If quality could be consistently maintained many of these furniture makers may be able to produce goods that were internationally competitive. However, the barriers to entry in the export sector for a small furniture producer in an African country are practically insurmountable. By organizing together in the form that KTDA was organized small furniture makers could participate in the international market vastly improving their welfare. An organization, such as KTDA, whether organized as a cooperative, public-private partnership or government authority could assist furniture makers in a number of ways. First, furniture makers are increasingly challenged to obtain good quality timber. The organization could be organized to either participate in sustainably managing and harvesting wood or putting pressure on the government and timber companies to do so. Apart from sustaining this necessary input for small furniture makers, furniture from sustainably harvested forests or plantations is increasingly getting a premium in price in world markets. Second, by purchasing in bulk or producing together the furniture makers would lower the costs of their inputs. Third, the network could provide quality control mechanisms. Fourth, credit availability for production could be improved by the network bargaining on members' behalf. Fifth, by exporting as a group, risk would be spread and the members of the network could take advantage of the economies of scale that are to be found in getting market information, transporting, insurance and marketing products.

Since the sale of the goods in the industrialized countries is controlled by companies from there, these huge premiums are received by them. For African producers to benefit more fully from exports, they must have additional control of the marketing and distribution chains even if they do not do direct retail operations. For example, if exporters of the goods we mentioned had the ability to land their goods in the industrialized countries, they could receive a substantial part of the premium. Further, because in the case of non-traditional exports part of

the premium is due to scarcity of the good in the West. This in turn is due to the difficulty of even the western companies contracting with African firms. Making the good available at the wholesale level in the industrialized country would have the effect of expanding its market, as more retailers would be likely to carry it. This might bring down retail prices but would push up producer prices as more retailers compete for the good.

There are a number of things that governments could do to help producers overcome market information hurdles. The first would be to try and make this information which is available via the internet to any astute user of the web. What would be required is that, within the plan of supporting a specific industry's exports, the government would collect internet based retail information and make it available to the producers. This would put them in a stronger position to bargain with the foreign based retailers. The other support that government can give beyond having an export promotion council is to create export extension officers similar to agricultural extension officers for various industries. These officers would be responsible for following international trends and searching out companies within their specific industry that have export potential and assist them in the process of exporting. Third, government could assist in helping industries get together in cooperatives in order to obtain warehouse and showroom space in the industrialized countries. Having the products actually available in the industrialized countries is much more likely to lead to sales and follow-up orders than any marketing brochure would do. For small firms, the cost of warehousing goods would be prohibitive. However, if firms collectively obtained space which could then be rented on an as needed basis, this may make exports by small firms more manageable. Some of these activities would be reorganized under an expanded trade mission connected to national embassies in the beginning. As the exporters mature, they could take over the organization of such facilities and organizations themselves.

Before we complete this section on the support to the private sector, we need to emphasize that a sophisticated private sector with the capability of competing in international markets does not simply appear *deus ex-machina*. In many African countries, the government will have to take an active hand in actually creating it. That is, beyond creating an environment in which the private sector can thrive, the government may have to provide subsidized finance and in some cases either go into partnership with private firms or start up firms.

Box 8: Facilitating Competitiveness and the Private Sector in Cape Verde

Cape Verde, a small island nation off the coast of West Africa, is, in many regards, one of the success stories in Africa with a stable democracy, healthy economic growth rates, and a rising per capita income. However, despite the good economic performance in recent years, the country realizes that sustained growth and development will only be achieved through economic transformation and the building of a globally competitive private sector. As a result, the government established the Growth and Competitiveness Project among other efforts at state reform and modernization. The Project is funded with an IDA loan.

The objective of the Growth and Competitiveness Project is to "broaden the base of private participation in Cape Verde's economic growth and enhance private sector competitiveness, and further develop its financial sector." Activities since inception have included managing the privatization of state enterprises or selling government shares in companies, funding policy reform programs, and supporting private sector to enhance their capacity and capabilities.

A review of the Project activities since its inception shows clearly that its main focus have been on reducing administrative barriers to investment and improving the investment climate. Direct support to private sector firms to reduce key constraints whether is capacity or finance has been limited. The main program in this area is Matching Grant Fund. This program has benefited about 120 SME's so far. It is used to provide subsidy for firms to obtain knowledge and business development services. It is also used for training through short courses organised by the trade associations.

The main areas in which the Project has been active is reform. The focus has been on policy reforms to improve the investment climate through reducing administrative burden, supporting financial and pension reforms, and facilitating modernization and state reform programs. Among the key activities that the projects have provided funding for are:

***Modernization and strengthening of the financial sector**:*
Specific activities have included support for programs to improve the payment systems. A key element of this is the implementation of VISA in Cape Verde. Legal reforms have also been undertaken, including development and enactment of new statutes for the central bank; enactment of legislation for new financial products, such as leasing and factoring, and the improvements to the insurance code. Support for the Central Bank in order to enhance its capacity for financial sector supervision and policy making have included modernization of its information and communications systems, with particular attention to central bank data security, and capacity building for better supervision. The aim is to reduce bad credit and improve the overall health of the financial sector, through revised mechanisms and staff training.

***Pension (Institute National of Social Providence (INPS) Reform**:*
Before the reform efforts, the pension system in Cape Verde was not unified and reviews indicated that liabilities were growing and ability to ensure the payment of future benefits was eroding. Government staff pension was managed by Ministry of Finance while others

were in a different system. The funding from the Growth and Competitive Project was used for the following:

- Actuarial study aimed at improving actuarial performance of the pension system. Reduction of Government liabilities to INPS through the contributions of USD 500,000 to meet some government obligations and arrears.
- Modernization of INPS's information and communications systems to ensure that the various areas of the institution are now networked and have better software tools that allow for better management of pension fund, payments, and more efficient detection of fraud. Data is more secure since the implementation of the new systems. Administrative costs were lowered. It is now possible for information to be shared with other public institutions, on a strict need to know basis and in compliance with privacy laws.
- Formulation of a pension coverage strategy aimed at bringing more and more people under a unified pension scheme. One of the key activities was the Integration of civil servants in the pension system**.** Before, civil servants had a separate pension scheme, managed by the Ministry of Finance.
- Planned activities include the definition of a new investment policy and parametric changes.

Enabling environment for private sector competitiveness

The activities of the Project with respect to reforms to supporting the building of an enabling environment include:

- Tax reforms, including introduction of Value Added Tax (VAT).
- Customs reforms, including the implementation of ICT system development and integration, SYDONIA++ (software tools used internationally), training, etc.
- Revision and streamlining of fiscal incentives which is currently ongoing.
- Legal, administrative and process reforms leading to the establishment of the "Casa do Cidadão" and the financing for the infrastructure, hardware and software, integration of ICT systems of various Government sectors, such as fiscal administration, customs, notaries, etc. This reform now allows for new business registration in one day.
- Publication of "Boletim Oficial" online.
- Development of arbitration laws and centres.
- Capacity building for the Chambers of Commerce to upgrade their capability to develop and implement support programs for their members and to have strategic and policy dialogue with the government.
- Support to CABO VERDE INVESTIMENTOS, the national investment promotion agency, to delineate and plan the ZDTI's (integrated tourism development zones) etc.
- Enactment of the new Public Procurement Code and regulations.

Privatization and Regulatory Capacity Building:

The Growth and Competitiveness Project inherited the activities of the privatization project, which was launched in the 1990s to privatize state enterprises. The Growth and Competitiveness Project have continued the process of privatizing state enterprises. The number of State Owned Enterprises has now decreased from over fifty at the outset, to 5 today. Although there were some mistakes, overall, the process has had positive impact on the economy. Examples include the wider access to telephones, and the introduction of cell phone and internet services.

The multi-sector regulatory agency, ARE, and others were created and current efforts are focused on strengthening the capacity of the various regulatory agencies, especially in the pharmaceuticals sector. Ongoing is a process of creating a new regulator, "Instituto Maritimo Portuario", to regulate shipping and ports. This will include the separation of port regulations, landlord authority and operator functions before the privatization of ENAPOR (the national ports management company).

Cape Verde over the years has been engaged in various reforms to build a competitive economy. The reforms have yielded many positive returns. Investment has increased. Economic growth since its height of over 10 percent in 2006 has settled around 7 percent per annum. Yet, Cape Verde's position in the global competitiveness rankings is still quite low, given national goals. The government is now embarking on a new set of deeper reform efforts to modernize the state, and ensure effective and efficient service delivery. The government is also currently working on establishing a new private sector development agency which will have as its mandate of developing and implementing programs to directly support private sector firms to enhance Cape Verde's global competitiveness. The agency was launched in November 2008, and it will focus on assisting private sector firms to overcome key constraints, build capabilities and facilitate learning, and enhance productivity, Key areas of interventions will include easing financial constraints, information dissemination, knowledge sharing, quality control and standards.

7.3.7 Rethinking Financial Systems and Regulations

One of the key areas in developing an industrial export sector is financing. The Washington Consensus view on the failure of African financial systems to deliver enough loans for projects was that the financial system was too regulated, and the central bank was not independent of the government. The prescriptions were therefore to privatize state banks (regardless of how successful they were), reduce regulations and give the central bank independence. In short, the attempt was to recreate the system in the image of the mature US Anglo-Saxon Banking system. In fact, with Central Bank independence, African nations were being asked in the 1980s to do what Britain had not yet done despite having an older and more mature financial system. While the relatively lightly regulated and liberalised Anglo Saxon system is very innovative at creating new financial instruments, it suffers from placing short term demands on companies which make it difficult for the companies to engage in long range thinking and planning.[31] In fact, all the newly industrialized countries of South East Asia, and even Japan and Germany, have had very different financial systems and regulations during their industrialization phases. In particular, unlike the Anglo-Saxon system where the ownership in the financial sector is separated from ownership in the productive sector, these systems have allowed for crosscutting ownership that has tended to allow longer time horizons for projects in the productive sector. In fact, in countries like Germany, local government (states within the

[31] The lack of regulation is today blamed for the global financial crises which emanated in the United States, starting with the problems with sub-prime mortgages, derivatives and hedge funds.

federal system) often owned banks that played an important role in lending to local companies.

We say this not to suggest that African countries should jettison what they now have and ape another system but to point out that there needs to be a total revaluation of African financial systems and other methods of raising financial support for development, if they are to play a critical role in supporting the export led industrialization process. In particular, we call for a revaluation of the following: Aid, FDI, Open capital markets, free floating exchange rates, development banks, the cooperative and microfinance sectors, and remittances.

Let us begin with a short discussion of Aid. It is now clear that Aid has largely been ineffective in assisting to create self-sustaining economies. As has been pointed out earlier, because Aid is often tied, the conditionalities reduce its effectiveness. Further, the acceptance and dependence on aid for especially budget support limits the policy space for African nations. We therefore advocate strongly two things. The first is that African countries put an emphasis on creating revenue systems that will cover their recurrent expenditure, with the aim that in the longer term the funds will cover development expenditures as well. The second is that rather than Aid and projects being driven by what donors want, that African countries explicitly state what they are willing to accept Aid for, along with their budget plans. We say this because it is only if African countries can retake their policy space completely will they be able to take the sometimes necessary steps required for industrialization

Let us give a quick illustration of why this is important and effective. Kenya, which since the 1990's has been seen by aid donors as corrupt, in 2005 decided that since it could cover its recurrent expenditures up to between 95 and 96 per cent, it would not include aid expected in its budget, but would instead borrow the gap from the local markets and if donors wanted to give aid they could do it on a project basis. Three things of importance have happened since the announcement. The first one was that immediately after the budget was read the following month saw a series of visits to the Treasury from the diplomatic corps committing to support specific projects. The other two things were that within a year or so IMF lending was resumed without Kenya updating or signing a new agreement, and finally the donors decided that they would once more channel all Aid through the hands of the "corrupt" Kenyan government rather than NGOs as they had partially done in an attempt to bypass government. The point here is not to downplay the seriousness of corruption in African countries but rather to point out that an African government that takes some initiatives at this time when both the IMF and World Bank are historically weak and new donors such as India and China are appearing may be able to reclaim a fair amount of its policy space back.

Once the policy space has been reclaimed then the government may want to reconsider how its

financial sector operates particularly in the following areas.

Many African countries have created extremely liberal rules vis-à-vis FDI in the hope that it will result in increased FDI flows. In reality, African countries other than natural resource extracting economies receive very little FDI. In fact, one can comfortably say that FDI follows the potential quick profits not the degree of good governance or the liberalness of the market regime. Rather than continuously barking up the FDI tree we would like African governments to consider the following. First, FDI, in many cases, may crowd out local investment thus with liberal rules potentially making large amounts of wealth unavailable for use locally (Amelia U. Santos-Paulino 2008). Second, where there are no natural resources, the most important indicator for how well foreigners might do is the success of local capital. In short, FDI follows local capital. Given these propositions then it pays African governments to spend their time and resources making sure that local capital can prosper. Once this is established the foreign capital is likely to join the party with little additional incentives needed.

Let us deal a little more in depth with resources from abroad and the priority of African governments. As we noted above there are three potential sources of resources from abroad. There is ODA and commercial loans, FDI and remittances. Of these three forms African countries spend an inordinate amount of energy and time attempting to attract ODA and FDI. While these two are important resources as we have noted it is not clear what the impact of ODA on growth is, further ODA commitments are often not timely and depend often on political conditionalities of one form or the other. They thus often may close down African states policy space. FDI either generally goes to resource rich countries and or may crowd out local private investment. If you combine these facts with the relative abundance of remittances we would argue that African countries individually need to revaluate what forms of overseas funding are most available to them and how they should mobilize them. To illustrate, why some countries may need to re-evaluate their position and where they should spend their resources in attracting monies from overseas we present some data below on remittances in comparison to ODA and FDI. The table includes information on remittances in 2007 the latest available year and then a comparison of average remittances, ODA and FDI over a ten year period in order to get some sense of the stability of remittances and other flows. At the outset let us note that these are official remittances and therefore are considered an underestimate of actual flows.

Table 6: Foreign Financial Flows into Africa 1997-2007

	Remittances 2007 (in millions of US$)	Remittances as % of GDP 2007	Average Remittances 1997-2006 (in millions of US$)	Average ODA 1997-2006 (in millions of US$)	Average FDI 1997-2006 (in millions of US$)
Benin	224	4.1%	100.0	276.6	44.7
Botswana	141	1.2%	57.8	57.3	228.9
Burkina Faso	50	0.7%	60.7	504.6	15.8
Cameroon	167	0.8%	45.3	671.8	218.5
Cape Verde	139	9.2%	97.7	122.6	37.7
Congo, Rep.	15	0.2%	9.5	252.5	260.7
Côte d'Ivoire	179	0.9%	140.3	422.5	291.4
Ethiopia	359	2.0%	70.0	1222.5	295.4
Gabon	11	0.1%	6.5	33.5	65.2
Gambia, The	47	6.9%	29.5	52.7	42.0
Ghana	117	0.8%	56.1	832.0	166.2
Guinea	151	3.0%	27.3	253.4	42.9
Guinea-Bissau	29	8.3%	14.2	85.5	7.9
Kenya	1588	5.4%	574.3	542.1	38.8
Lesotho	443	28.7%	293.5	66.8	142.4
Madagascar	11	0.1%	12.4	619.2	55.9
Mali	212	3.3%	125.8	494.2	109.9
Mauritius	215	2.9%	199.3	26.2	60.9
Mozambique	99	1.3%	54.4	1196.0	224.4
Namibia	17	0.2%	12.1	150.1	
Niger	78	1.9%	32.4	348.2	15.7
Nigeria	9221	6.7%	2063.1	1992.6	1913.9
Rwanda	51	1.9%	9.8	390.4	5.9
Senegal	925	8.5%	422.3	572.1	81.4
Sierra Leone	148	9.4%	18.7	254.0	27.3
South Africa	834	0.3%	409.5	563.8	2272.5
Sudan	1769	3.7%	895.2	683.0	1121.8
Swaziland	99	3.4%	78.4	29.3	44.3
Tanzania	14	0.1%	11.0	1321.4	364.8
Togo	229	8.4%	102.4	76.5	48.0
Uganda	849	7.2%	354.9	926.5	229.1

Sources: World Development Indicators and Migration Factbook

- Data available only from 1999 for Uganda

The first thing that should be immediately obvious is that remittances are substantial in actual amounts and as a percentage. They range from a low of 11 million dollars in Gabon and

Madagascar to 9.2 Billion dollars in Nigeria. This represents anything from 0.1 per cent of GDP to 28 per cent in the case of Lesotho. The countries receiving large amounts in actual terms or as a per cent of GDP vary and are representative of various sizes of economies in Africa. They include small economies agricultural or labour exporting economies such as Lesotho, Cape Verde and Uganda. At the other end you have large resource and/or relatively diversified economies such Nigeria and South Africa respectively, and medium sized relatively diversified economies such as Senegal and Kenya.

Using the data over the period 1997-2006, we can compare remittances to both ODA and FDI. We use the long period so that we can more truly judge the real size of the flows rather than simply taking one year figures which may happen to be extraordinary. In reality whether we took the latest figures available or the ten year average our analysis would not change much so the comparison is fairly robust. Out of 30 countries for which data is available, 8 countries or just over 25 per cent receive more remittances than they do ODA. These are Botswana, Nigeria, Kenya, Sudan, Togo, Swaziland, Lesotho and Mauritius. These countries include relatively large recipients of ODA such as Nigeria the largest recipient during the period and Sudan and Kenya which ranked seventh and 12th respectively. Countries such as Lesotho and Swaziland are also large recipients. Given this, it is the case here that among these countries Remittances are higher than ODA not because ODA is small but because remittances are large. The range in the ratio of remittances to ODA runs from 101% to 759% in the case of Mauritius.

Fifty per cent of the countries in our sample (i.e. 15) receive more remittances than they do FDI despite the tremendous efforts that African countries have undergone to make themselves more foreign investment friendly at the hands of the Bretton Woods institutions. Remittance flows are also more stable than FDI flows (Grabel 2008). The range of the ratio of remittances runs from 108 per cent in Nigeria which is the second largest recipient of FDI to 1479 per cent in the case of Kenya. We should note among these 15 countries are a number that are considered among the most business friendly in Africa. Of the 15 countries, 9 or 60 per cent are in the top half of the Doing Business league tables for sub Saharan Africa (World Bank 2009). This includes the top country Mauritius where the ratio is 327 per cent, the fifth country Kenya and the ninth and tenth countries namely Swaziland and Uganda, respectively. In fact, of the top 5 countries in the Doing Business League tables, two receive more remittances than FDI and a third South Africa in the more recent past has received remittances nearly as large as FDI. Given the mix of the countries and particularly the decent representation of business friendly economies, one must conclude that the ratio is not driven by these countries being low recipients of FDI in the African context but rather because of the size of the remittances.

Given these results, it seems that at least some countries may want to pay more attention to

mobilising remittances and channelling them to uses that may have higher social returns than they are now[32]. This should especially be the case in the six countries where remittances are higher than both FDI and ODA, these are namely Kenya, Lesotho, Mauritius, Nigeria, Swaziland, and Togo. We are of course aware that remittances go directly to families and thus may not create as big an effect in the economy in terms of output as FDI for example but it is hard to justify the case of say countries like Kenya or Senegal where approximately 10 or 20 per cent respectively of officially recorded remittances is equivalent to FDI. It does seem with a little effort in these countries for example remittances going to investment could easily exceed FDI.

During the Structural Adjustment period African states had foisted on them open capital markets as well as floating exchange rates. By adopting such system, countries have lost two potential policy tools that are important for financial stability and supporting an industrial sector especially in small economies. Open capital markets are open to abuse by speculators and can also be very unstable where foreigners are the big players. They can move money out rapidly at the slightest inclination of trouble. One only has to examine the 1998 financial crisis in South East Asia to understand the implications, since the money that African countries need is not the short term speculative type but rather long term investments. Many African countries may not be worse off if they explicitly state that there will be limited capital controls requiring investors to commit to longer periods (say a two year minimum) and controlling the proportion of profits that can be repatriated (or taxing repatriated profits at a different level from those retained in the country). We suspect that the trade off might be lower investment but more stable flows as investors will have to be those who know that they can make a profit over the long term. Another way that the same result can be achieved (and also create revenue for the government) is the imposition of a Tobin Tax on stock trading. This device which has been used in the past as far back as the American civil war would tax each trade. This would make speculative trade more expensive as participants in the market would have to ensure that their returns from making a quick sale covered the taxes. It would have less effect on individuals who bought stocks to hold onto as taxes only occurred on trading.

Exchange rates can be extremely important ways of controlling the price of own exports and imports; one only has to study how China has used its exchange rates to propel its export machinery to appreciate this fact. In a small economy, a government can be effective in keeping an exchange rate correctly aligned with its major trading partners. For example, the Kenyan exchange rate has in recent years being most overvalued vis-à-vis its trading partners,

[32] We must of course caution that a move towards remittances come with their own set of problems, among them the possibility of dutch disease, the release of government from providing some public services and ambiguous effects on equality, of course ODA and FDI suffer from these and other problems as well. For a more completing accounting of some of the potential shortcomings of remittances please see Grabel (2008).

during the period when it has been free floating, and most correctly valued during the managed exchange rate regimes (Pollin *et al* (2008)).

Along with open capital account and free-floating exchange rates, inflation targeting was an important conditionality for African countries that participated in the structural adjustment programs. While we do not underestimate the importance of inflation the level of inflation that a country should target especially in the context of the possible employment effects should be determined by the particular economic structure of the country. This is especially the case in the context of the recommended 5 per cent level that has been used indiscriminately across countries despite a wide number of studies that point out that the detrimental effects of inflation occur well above that point (Pollin *et al* (2008)). Furthermore, it has recently been shown that the impact of the inflation targeting in the context of increasing exports can have the effect of an overvaluation of the currency and thus make other exports less competitive internationally (Weeks 2008). If you combine this with the high in flow of remittances a case is easily made for some active management of exchange rates.

The question of inflation targeting is further complicated in the case of a number of African countries because of the nature of inflation. The orthodox view of targeting inflation assumes that inflation is a monetary phenomenon. It is the case in some instances that much of the inflation experienced in African countries is the result of supply shocks especially in food and fuel and the persistence of their effect on prices (Pollin *et al* 2008). Where this is the case tight monetary policy to control inflation does not necessarily have the desired effect of lowering inflation but rather will raise interest rates and other things remaining the same potentially strengthen exchange rates. This will increase the price of exports and make manufactured imports relatively less costly than local manufactures. Another unintended consequence of the high interest rates on government instruments that were imposed to assist in inflation targeting also have the unfortunate effect of encouraging banks to invest in government instruments rather than in supporting productive investment. All of these results are likely to decrease employment in sectors of the economy where employment should be growing if a country is to transform.

At the level of institutions, African states should consider recapitalizing and resurrecting the developments banks. Institutions that are able to lend at low rates to new industries are central for the rapid creation of an industrial sector. Across the world, nations that are now developed have used such institutions to channel cheap long term credit to favoured sectors.

There are two other aspects of finance that are particular to Africa where African countries will have to find and design their own systems. The first is the fact that most Africans do not have

access to the formal commercial banking system but are more likely to be involved in cooperatives, and formal and Informal microfinance schemes. The big challenge is to connect the smaller cooperatives and microfinance schemes which have shown an incredible ability to monitor loans with the more formal financial systems. This is important because if small enterprises which are the largest employers outside agriculture in most African countries are to obtain financing to expand and participate in exports they are likely to approach the cooperative and microfinance sector. However, this sector while having the monitoring capacity does not have the capacity to lend. On the other hand, the commercial sector may have the capacity to lend but cannot monitor. One approach to bridging the gap could be the implementation of a credit rating system for the cooperatives and microfinance institutions. That is the cooperatives and microfinance institution would receive a credit rating which the main street banks could then use to lend them money. This would be much cheaper than a full fledged credit rating system for individuals across the economy. This would then allow the microfinance institutions to borrow from the commercial sector and turn around and lend to their members. We advocate this as it would be, of lower costs than developing a credit rating system for individuals and it would be easy to implement as most of the pieces are already in place. Another approach would be subsidized loans going through the commercial sector with the government underwriting some of the risk (for a full description of such a scheme see Pollin *et al* (2008, 2006)).

Another aspect of financing that states need to address is export financing. Often firms need credit in order to produce goods for export. The immediate exporter of good in some cases is able to overcome this constraint via the use of an export letter of credit that allows them to borrow again confirmed orders. However, suppliers to the exporters may still face a credit constraint. This can be solved by the issuance of local letters of credit based on the original international letter of credit. This originated in Korea where the exporter's bank issued a local letter of credit allowing the intermediate companies to be eligible for the same kind of favourable short term loans that exporters were eligible for (Rhee *et al* 1984).

7.3.8 Mobilizing savings and investments

For African countries to follow an independent development plan that puts the interests of their of their citizens first they must generate sufficient resources for investment so that they are not subject to the conditionalities that come with most ODA nor the stringent pro transnational corporation laws that they have to put in place in order to attract FDI to resource poor countries. Early in modern development the assumption was that there existed a savings gap that would be closed by foreign savings in the form of ODA and FDI. As we have noted both

FDI and ODA result in a constricted policy space for African countries. While not advocating that African countries engage in some form of financial autarky, we would like to emphasize that limiting the degree of exposure potentially increases your policy space.

There are two approaches to mobilising more domestic resources. The first is trying to get access to funds that have previously remained outside the ambit of the formal financial system. The second is the channelling of funds already within the formal financial system to more productive use.

The recent history of African countries and East Asian countries suggest that there are a number of ways that domestic resources can be mobilised. In the past, it was assumed that the vast majority of African families who lived in the rural areas did not have sufficient savings to make rural banking worthwhile. Even where they may have been savings, the poor infrastructure and the low population density made the costs of collecting these funds prohibitive as compared to doing the same in urban areas. This resulted in an urban bias in banking though even there banks focussed on formal sector middle and upper middle income populations.

There are a number of solutions to this problem. The first is that in many countries where banking rural or low income populations was not profitable a public agency took up this role. In order to keep the cost down, this was done by an agency that already had a network of offices across the country. The most appropriate agency to do this was the postal services through the creation of a savings bank that generally concentrated on passbook savings accounts. While a number of African countries have had a post office savings bank they have not had the success of for example the Japanese postal savings bank that was an important source for savings used in the development of Japan. The challenge for African countries is creating postal savings banks (or similar institutions) and also creating financial products that encourage the unbanked to put their savings in formal institutions. Some of these concerns have been addressed more recently by micro-finance institutions or even commercial banks as in the case of Equity bank in Kenya in collaboration with the mobile phone companies – see below.

Some of the cost today can be mitigated by the use of technology particularly mobile phones. Safaricom, a public-private partnership between the Kenyan government and vodaphone recently launched a money transfer service M-Pesa that uses an individual cellphone number as an account that can both receive and send money. Effectively all the users have financial accounts. Given the widespread use of cellphones the number of M-Pesa users has surpassed the number of formal bank accounts in the country. With the relatively high penetration of cellphones in African countries compared to formal bank accounts one can imagine a joint

venture between mobile phone companies and financial institutions which allows for the creation of bank accounts for people who were previously unbanked. The role of government here would be to create the necessary regulatory framework for this to occur[33].

We should also note at this point that Africa's rapid urbanization over the last forty years has also brought down the cost of banking for large segments of the population.

While we have generally been critical of the impact of SAPs, one somewhat favourable outcome was the attention paid to capital markets in Africa. Across the continent in the last ten years we have seen the growth both in value and trading in these markets. We do not presume that these markets are the silver bullet that will resolve the problems of resource mobilization but recent IPOs across the continent bring attention the substantial availability of local funds looking for worthwhile investments. For example, in Ghana in 2006 three IPOs raised over US$ 100 million (including over subscription). In 2007 in Nigeria in the biggest IPO US $ 400 million worth of shares of Dangote Flour Mills was oversubscribed by 621 per cent representing a commitment of US$ 2.5 Billion. In 2008, in Kenya, despite the post election violence, the sale of 25 per cent shares of the mobile phone company Safaricom worth US$ 850 million was oversubscribed and raised US$ 3.2 Billion of which 71 per cent was local capital. This amount was 123 times the amount of FDI in the country in 2006. Since FDI is highly variable, we compare this with the largest amount of FDI in the last five years which was in 2003 and amounted to US$ 80 million. This amount is 40 times smaller than the local monies raised in the Safaricom IPO. The amount raised by the IPO represents approximately 10 per cent of GDP. In the case of Nigeria, the oversubscription for Dangote Flour Mills represented close to 2 per cent of GDP and it was 20 per cent larger than FDI in 2005 the last year for which we have figures.

These examples point to a potential source of funds for development locally. These monies can be raised via other instruments such as government bonds for infrastructure or in the case where the projects do not have public characteristics in the economic sense, through the floating of shares for either private firms or private-public partnerships.

Our examples above, point to ways in which previously inaccessible funds can be brought into the formal market. We now turn our attention briefly to the potential change in the use of funds already in the market. The continued development of reliable and stable local capital

[33] During the writing of this essay we have seen the explosion of innovation around mobile money pioneered by M-Pesa in Kenya. In fact a system such as the one we describe came into existence this year (2010) via collaboration between the banks and the mobile companies individuals are now able to keep interest earning savings accounts on their phones. One such collaboration is M-Kesho which is a collaboration between Safaricom and Equity Bank in Kenya.

markets is likely to untie capital that has traditionally been tied down in land and real estate in Africa which were the traditional hedge against inflation and in many countries were the only available investment opportunity.

One of the most successful methods used by the East Asian countries to mobilise savings was through the use of pension funds. First, pensions were set at a relatively high percentage of salary creating a significant pool of forced savings and second, these funds were invested within the context of a development strategy rather than being left to the pension authority thus creating in the long term the largest multiplier effect.

Lastly, African countries need to consider their consumption patterns. In countries with high inequality in the context of relatively liberalised imports there is likely to be substantial luxury consumption that contributes little toward economic transformation. Countries can raise some revenues for public infrastructure for example via taxation of luxury consumption. For example a higher tax on luxury cars could be earmarked for improving public transportation.

As we have tried to demonstrate above and elsewhere via the discussion on remittances, African countries have substantial local resources at their disposal to use for development. The challenge is creating the right kind of instruments and institutions to mobilise these resources.

7.3.9 Regional Dimension to enhancing Africa's global competitiveness

In the globalized and highly competitive world of today, the reality is that most African countries are at a disadvantage. Importantly, as late starters, the challenges faced by African countries seem to be progressively getting worse. Conventional wisdom suggests that Africa must focus on its comparative advantage. The results of this over the last few decades have not been satisfactory. Moreover, the continuous dependency on raw materials and primary products do not look promising for the future. A shift to labour intensive manufacturing, however, also presents its own challenges. How can African countries compete with China and India in labour intensive manufacturing?

In fact, building competitive economies by African states has not been and will not be an easy task. African countries have always recognized this challenge. It is why there has been a major emphasis on regional integration and strategies. If there is to be an Africa-wide strategy for global competitiveness, regional integration and collaboration will have to be core element. Since African countries began to obtain independence in the 1950s, a major inclination has been the push for regional economic integration and cooperation. This has been both at the

various sub-regions and at the continental level. A key impetus beyond the political imperative which is a key driving force is the desire to facilitate economic competitiveness through larger regional markets which will be able to attract a larger share of the global market (UNECA and AU 2006). The desire for larger markers is based on the fact that most of African states are small, with limited internal markets. Of all African countries, only the Democratic Republic of Congo, Egypt, Ethiopia and Nigeria have population over 50 million people. Altogether, only 14 countries have markets which are more than 20 million people. Essentially, more than 50% of all the countries are less than 10 million people.[34] Combined with the other challenges such as lack of access to the sea by most countries in the continent, it is quite easy to see the imperative for economic integration and regional strategies.

The problem, however, is that most reviews of the attempts by African states to promote regional economic integration and cooperation show mixed results. There have been successes and many failures (UNECA and AU 2006, Mistry 2000). In fact, the multiplicity of regional integration initiatives with countries belonging to several regional blocks is itself a problem. The results are overlapping mandates, duplicated integration policies and multiple memberships slowing integration and impeding the effectiveness of the regional economic communities (UNECA and AU 2006, Gĩthĩnji and Mason 2007).

Economic cooperation at the regional level is not limited to establishing regional integration treaties and institutions. There have been several initiatives to facilitate economic competitiveness and transformation. One such initiative is the Monrovia Strategy. Another is the Lagos Plan of Action (LPA) signed by African Heads of States in Lagos, Nigeria in 1980. The LPA charts a future scenario for the continent and outlined an Africa-wide strategy for industrialization. The LPA highlighted the need for regional planning and approach to industrialization. It also placed emphasis on both markets and strong developmental states in Africa. Despite the Africa-wide consensus, the LPA lacked donor support while African countries lacked the wherewithal including the political will and resources to implement the industrialization vision which it presents. It was not a coincidence that the Berg report which forcefully advocated the application of neoclassical approaches to development and on the reliance on market forces was published by the World Bank in 1981.[35] African countries were accused of being over ambitious and while the alternative economic governance framework proposed under the Berg Report became the basis for designing the Structural Adjustment Programmes.

[34] See Population Reference. *2008 Africa Population Data Sheet*. http://www.prb.org/pdf08/africadatasheet2008.pdf Last accessed on 18 November 2008.
[35] See World Bank (1981).

In the 1980s and 1990s, UNECA and the OAU (the predecessor to AU) attempted to present alternative regional strategies for Africa's development as an alternative to SAP. Among these were the Africa's Priority Programme for Economic Recovery (APPER) and The African Alternative Framework to Structural Adjustment Programme for Socio-Economic Recovery and Transformation (AAF-SAP). Unfortunately, as like the LPA, the alternative strategies proposed were neither supported by donors nor were they implemented by African countries. The latest regional initiative to promote competitiveness and development is the New Partnership for Africa's Development which provides a framework for Africa's economic development under the auspices of the Africa Union. Years now after NEPAD's launch, it is difficult to see or measure its contributions to Africa's economic competitiveness and industrialization.

Notwithstanding the difficulties to-date with the implementation of the regional integration agenda and regional industrialization strategies, the regional dimension must continue to be a key element for building globally competitive economies in Africa. It is clear given the challenges facing African countries that the priority placed on regional cooperation and integration in is not misplaced. What is needed is commitment and the willingness to do what is clear must be done (UNECA and AU 2006). African countries will benefit from collaboration on most if not all the issues that hinders African countries' ability to compete in the global marketplace.

In reality, the regional approach may be the only sustainable way to ensure that most African countries can compete in today's hyper-competitive and globalized world economy. What is clear is that previous integration and cooperation approaches will need to be adjusted in favour of what will work and importantly the top down approach to integration where the focus is on signing treaties as opposed to practical projects will need to be modified. Rationalization of regional integration bodies needs to take place, national support for regional economic communities and integration must be ensured, and continental coordination must be enhanced (UNECA and AU 2006). Importantly, African leaders need to begin to close the gap between rhetoric and meeting regional commitments and obligations.

A more pragmatic approach which is focused on project collaboration and creation of regional public goods also needs to be intensified. Take for example the idea of human capacity development. Building tertiary technical institutes and universities that can train world-class engineers and scientists or engage in research and development which could facilitate world-class innovation and enhance competitiveness are beyond the means of many small African states. Several such institutions exist for science and technology development. Among these are the West African Rice Development Association (WARDA), African Regional Centre for Technology (ARCT), The African Regional Centre for Engineering Design and Manufacturing (ARCEDEM), Africa Institute for Higher Technical Training and Research (AIHTTR) and African

Organisation for Standardisation (ARSO). The problems, however, are that the institutions are starved of resources and skilled staff while some are simply badly managed, and member countries are not meeting their obligations.

What is needed is intensification and provision of the necessary resources (human, financial and equipment) to ensure the institutions are fully functioning. These institutions especially the science and technology centres can be linked to universities to participate in training scientists and technologists, and they can also be linked to private sector firms as a way to ensure that they contribute to making African countries competitive. By making the institutions relevant to the needs of African countries, it may be easier to ensure national commitment, find funding, and to mobilize the necessary resources.

This type of regional approaches is not limited to training or research and development in the fields of science and technology. Opportunities for collaboration or regional approaches exist in various areas. Infrastructure, as outlined earlier, is one such critical area. Others include trade negotiation. In the today's hypercompetitive world, one crucial role for the state is trade negotiation. Majority of African countries are simply unable to marshal the necessary resources to negotiate with the developed countries. Yet, we continue to negotiate trade deals without the necessary capacity or resources. Stories abound of situations where only one negotiator represents an African country in negotiations with a developed country with teams of experts across the table. The sad reality is that this caricature is unfortunately true; African countries singly are outmatched in trade or any other negotiations. In some cases, where the negotiations are between economic blocks it is simply too easy to use aid to pick apart the African coalition and negotiate with countries singly. This must change.

These types of regional collaboration do not require giving up sovereignties or national powers which African countries seems to guard jealously at their own peril. They do require commitment and meeting obligations. But they provide a way to ensure that Africa pool its resources and talents in the face of unprecedented global competition where most if not all African countries are late starters with significant disadvantages. Collaboration and regional cooperation is a critical element of the mix to ensure global competitiveness by African countries moving forward.

7.4 What Capabilities will African States need to enhance their global competitiveness?

Part of the need for regional cooperation and collaboration is based on the fact that the challenges faced by African countries trying to compete are infinitely harder now than two or three decades ago when the East Asian countries launched their own industrialization agendas. The word economy is now more global, more competitive and more complex. More than ever, states must play an increasingly more complex role. The global financial crisis which erupted in the US in 2008 is an example. At the root cause of the problem is the negligence of the US government to provide oversight for the financial sector. Many other governments either abrogated their rights to regulate the financial sector or simply do not have the capacity given the increasing complexity of financial products from subprime mortgages, hedge funds to derivatives.

In this new world, new challenges are constantly emerging. In the meantime, African states are faced with multiplicity of today's competitiveness and development problems. Yet, they are called upon to address emerging issues, ranging from the global financial crisis, environmental regulations, money laundering, to international organized crime. Meeting these challenges will require that African countries upgrade the capacity and capability of the state. If African countries are to build the necessary developmental state, there will have to be a renewed emphasis on building a state able to facilitate and coordinate the development process. Among the key capacities and capabilities that will be required for developmental states with respect to competitiveness will include capacities for Anticipation and learning, Strategic planning and policy making and implementation, Mobilizing stakeholders, and Negotiation,

First, African countries will need the capacity for anticipation and learning. As indicated, a key characteristic of the present times is complexity brought about in part because of the rapid change and turbulence. Competing in the emerging environment will require that African states become proactive. They will need to be able to anticipate emerging issues and plan accordingly. Such capability will require that the state build the capacity for long range assessment to analyze trends affecting the country, study the evolution of the international context, explore alternative futures and provide comprehensive perspectives as well as generate development options and strategies (Caiquo and Adesida 1994; Dror 1988; Sagasti 1988). Such undertakings will allow countries to build the capacity to learn and continuously upgrade competencies and capabilities which will be necessary to facilitate national development and competitiveness.

Second, building a competitive economy as a late starter in the emerging world requires that

the state be strategic in orientation. It requires capacity for strategic planning, and the ability to formulate and implement policies in line with a comprehensive national vision and goals. There will be a need for African countries to overcome one of their main shortcomings: the lack of strategic thinking. The state in many African countries has yet to realize that their role is not simply to interpret rules, be a bottleneck or act as an obstacle to citizens. They must realize that the inherited colonial state must be reoriented to focus on how to work with the private sector and other stakeholders to ensure that the economy is able to compete in the global marketplace. A key element of this is undertaking strategic planning to be clear about the "what" and "how" in order to ensure that there is a focus on national goals and that all stakeholders are playing from the same playbook. This strategic orientation requires that the state have the capability to formulate policies that will translate broad visions to concrete policy objectives, and identify actions to be undertaken as well as build the capacity to implement agreed upon actions in various sectors to facilitate competitiveness. An example that such capacity will be needed for is the private sector development, including policy making and implementation to assist firms to overcome financial constraints, improve productivity and enhance product quality, and to get access to foreign markets. Another is the state's capacity to design and implement a framework for incentives that will actually facilitate industrialization and economic competitiveness.

Thirdly, competitiveness is not something the state can deliver to the people without their engagement. One of the fundamental flaws of current development paradigms is that the people are seen essentially as recipients of development. This needs to change if African countries are going to be able to ensure that they industrialize and become competitive. The people must be active participants in the process. The state must develop the capacity to mobilize the population to engage in the development process. For example, moving from where most African nations are at present to a future in which they are globally competitive will require a change of mindsets. It will require people to work harder, save and invest more, and in general to sacrifice more for the development process. For this to happen, there must be a clear vision that is truly shared among the wider population and the state must have the capacity to mobilize people voluntarily to do their part in ensuring economic transformation.

Fourth, the state must have the capacity to negotiate. This is critical to almost every action of government whether it is negotiating trade deals, negotiating with donors for national control over the policy space, or negotiating with the various stakeholders for design and implementation of policies and programs. In the era of free trade and the World Trade Organization, African countries need to build capacity to negotiate and ensure that the global trading system is fair. They must be able to secure market access for their firms and products. They must also be able to push for an end to subsidies which are hindering Africa's global

competitiveness, especially in the agricultural sector. A key part of this is to ensure that African countries are given some space as late starters to be able to organize and to allow for more state intervention where necessary[36]. Beyond trade negotiations, there is an important need for African countries to lead their development process. African countries will need to be able to negotiate support while ensuring that their ability to design and implement policies which will enhance their competitiveness is not constrained. Moreover, in a democratic environment, developmental states will have to be able to negotiate with domestic stakeholders to ensure that policies are designed and implemented in line with national vision and goals and to ensure that losers and winners in the policy process are properly managed.

These four areas represent the crucial pieces with respect to state capacity that African countries must seek ways to build if they are to be able to build globally competitive economies. This, however, must not be limited to the executive branch especially if the goal is democratic developmental states in Africa. All arms of government—legislature, judiciary and executive—will need their capacity to be upgraded. Additionally, it will also be important to ensure that the conditions and tools for work are conducive to realizing the nation's agenda. A critical requirement will be a robust national leadership and an excellent public administration which will organize and put all the pieces together.

[36] Even without a change of rules the bureaucracy has to realize where leeway exists today within the world trading frameworks.

8. Conclusions: Towards an African Developmental State

For African countries to take advantage of the present higher rates of growth to transform their economies they must seriously consider the ways this was achieved by all countries historically and grapple with what kind of model will be best for them and what role the state plays. In doing this, they must realize that there is no "one size fits all model" and that there are changed international and national conditions so like the Chinese they must "cross the river by feeling the stones."

What does this mean? It is important that we realise that it does not mean getting everything right at once. Often a criticism that is made of state led efforts is that the state needs to get so many things right that in the case of weak states this is impossible. In fact, historically, states have not gotten everything correct initially but have learnt by doing and have been willing to make radical changes in direction in the process of development. For example, in the case of South Korea, in more than one instance the state had to close down unproductive plants or merge industries in order to capture returns to scale after having initially subsidized separate firms (Ha Joon Chang 2006). The second important aspect is the realization that building a competitive economy is not simply a matter of trade policy but is a matter of overall development policy. Along these lines we would emphasize that countries need to look at the question of development more holistically rather than as it simply being the question of filling a gap such as a human capital gap, an investment gap etc, etc.

Amongst the most important things they must consider is the importance of creating the human capability to build and "staff" an industrial economy. In this regard, one basic policy consistent no matter what model is improving the human development of your population. In fact, the primary route towards transformation is having the right human capacity and, as such, it is critical for African governments to invest in providing quality educational system which is informed by their vision and strategy for transformation.

Because transformation will require challenging the international status quo, African countries must recapture their policy space. Recapturing their policy space require that countries substantially fund their government spending. This means that in the short term there is a need to seriously transform revenue services to ensure that they are up to this task. It also requires managing expenditures, and reining in waste (including corruption) in order to reduce external dependency and regain control over their policy environment.

Openness and pragmatism rather than blind ideological fervour should be the guiding principles in considering what policies and approaches should be considered. Here, it will be important for

international partners and development finance institutions to also become pragmatic. Policies and strategy must be context and time specific. These agencies must avoid the seduction of making policy proposals and recommendations based on their ideology. Development is not religion and the policy advice must not be pushed like a religion! Also, in this regard, African leaders and policy makers must regain the initiative. Policy advice can and will be given but it is dependent on African countries to decide on the 'what' and the 'how'.

For the state to manage the transformation project there is a need to revitalize the bureaucracy and improve its morale. Further, the bureaucracy must be reshaped in order to be able to address the challenges faced by countries in an increasingly globalised world. State capability must be seen as paramount and must be built. The role of the state is not decreasing. In fact, the role of the state has increased and become more complex. As such, without adequate state capacity the national transformation project will fail.

To be successful African states must begin to plan and evaluate projects over a longer time horizon. Both Samsung and Toyota, today two of the world's largest firms in their respective areas were government supported loss making enterprises for periods of close to twenty years (Ha Joon Chang 2007). Their respective governments supported them because they understood that the creation of such firms was a long time project. While being careful not to simply throw good money after bad, African governments must create strategies that allow for a longer duration of support for their industry if they intend to create world beating enterprises. What is important is to ensure incentives are given on the basis of merit, that they are safeguarded through political cycles, and finally that they have sun set provisions.

African countries need to take their own history seriously, both successes and failures. This is important because there exist numerous examples of projects which had African countries continued to support may have changed outcomes significantly for some of them. The only way Africa can avoid such realities in the future is for Africans to take ownership of the development process. African countries cannot outsource their development. Leadership of the development process must be national and be seen as process of learning. African nations must learn from experiences and plough lessons learnt in future policy making rather than simply 'throwing out the baby with the bath water' as done in the past when African countries every decade shift strategies wholesale.

Transformation is not just an economic process; it is not simply filling a gap that is the barrier to development. Rather, it is a political process that requires visionary leadership and a national inclusiveness that can only be obtained within the context of a fairly equal democratic society. Leadership is a critical element in the transformation process, without which transformation

will remain a dream. In fact, the failure to transform most African economies to-date can be ascribed to weak or bad leadership. The right leadership is needed at all levels and in the various sectors of society to address what we see as the first order challenges including the crisis of confidence, addressing the issues arising from an inherited colonial state that is not developmental, taking ownership of the transformation process rather than hoping that Africa's development can be outsourced to development partners.

Additionally, transformation will require strategic and visionary leadership able to develop the vision and the strategy for transformation, and able to bring together the nation, facilitate ownership and ensure inclusiveness in order to ensure commitment and bring the people along the journey. The leadership must also be able to negotiate the development context, including with the external world to advance national interests. Good leadership, however, does not simply appear-it is often a reflection of the society and the institutions that produce the leadership. In this respect, 'followers' (citizenry) have a critical role to play. They must demand more from their leadership and when necessary organize massive social movements to ensure that the leadership stays on the right path. Part of the transformation process includes structurally changing the body politic of African societies by deepening the democratic process and ensuring that all members of society have equal opportunity both political and economic. This is a pre-requisite for the emergence of the developmentalist state in Africa that will be able to facilitate global industrialization and national transformation.

********** END**********

REFERENCES

Olugbenga Adesida (2005). *Intermediating Institutions and the Diffusion of Complex Technological Innovations: the case of electronic commerce*. London School of Economics and Political Science: PhD Thesis.

Claude Ake (1996). *Democracy and Development in Africa*. Brookings Institution Press, Washington, DC

David Barbosa (2008) "China's Ambition Soars to High Tech," *New York Times*, August 1, 2008.

David Bloom, David Canning, and Kevin Chan (2006). *Higher Education and Economic Development in Africa*. Africa Region. The World Bank. Washington, DC.

Ben Caiquo and Olugbenga Adesida (1994). "Integrating Futures Studies into Development Planning," *Futures.* 26(9) : 891-902

Ha-Joon Chang, (2003). *Kicking Away the Ladder*, Anthem Press, London

Ha-Joon Chang, (2003). *The East Asian Development Experience,* ZED books, London

Ha-Joon Chang, (2007). *Bad Samaritans: Rich Nations, Poor Policies and the Threat to the Developing World,* Random House, London.

R. F. Doner and B. R. Schenieder (2000). "Business Associations and Economic Development: Why Some Asscoaitions Contribute More than Others." *Business and Politics*. 2 (3): 261-288.

Yezekel Dror (1988). "Political Institutions for Development: Eight proposals for upgrading the capacity of central minds of government to engage in societal architecture." In E. Mansini, J Dator and S Rodgers (editors), The Future of Development: Selections from the Tenth World Conference of World Futures Studies Federation. UNESCO, New York.

Economic Commission for Africa (1989). *African Alternative Framework to Structural Adjustment Programmes for Socio-Economic Recovery and Transformation (E/ECA/CM.15/6/Rev 3).* Addis Ababa: United Nations Economic for Africa.

Peter Evan (1995) *Embedded Autonomy,* Princeton Press, Princeton.

Peter Evans, Dietrich Rueschemeyer and Theda Skocpol (editors) (1999), *Bring the State Back In,* Cambridge University Press, Cambridge, UK.

Ben Fine (2006) "The Developmental State and the Political Economy of Development" in K.S. Jomo and Ben Fine (edited) The New Development Economics, Zed Books , New York,

Christopher Freeman (1988). "Introduction" in G. Dosi, C. Freeman, R. Nelson, G. Silverberg and L. Soete (eds). *Technical Change and Economic Theory*. London: Pinter Publishers.

Alemayehu Geda and Atnafu G. Meskel (2008) "China and India's Growth Source: Is it a Curse or Blessing for Africa", China and India in Africa Conference, Nordic Africa Institute, Uppsala.

Mwangi wa Githinji (2009) "Is that a Dragon or Elephant on Your Ladder" Sylvain Boko and Dierry Seck (edited) Sector Led Growth in Africa and Implications for Development. African World Press, New Jersey *forthcoming*

Mwangi wa Githinji (2010a) "Dhows to Planes: Trade Relations between the Arabian Gulf and Africa and their impacts on Development" *Journal of African Development,* Spring 2010, Volume 12 #1, pp 132-155

Mwangi wa Githinji (2010b) "Growing Unequally: An Audit of the Impact of Kenya's Vision 2030 on Growth" in SIDs *Kenya Vision 2030: An Audit from an Income and Gender Inequalities Perspective,* Society for International Development, Nairobi.

Mwangi wa Githinji and Patrick Mason (2008) "Income, Working Standards and Labor Mobility: Planning for an Integrated African Economy" in Sylvain Boko and Diery Seck (eds) *NEPAD and the Future of Economic Policy in Africa,* African World Press, New Jersey

Ilene Grabel (2008) "The Political Economy of Remittances" PERI Working Paper #184, University of Massachusets-Amherst

Lundvall, B.-Å. (ed.) (1995) *National Innovation Systems: Towards a Theory of Innovation and Interactive Learning,* 2nd edition. Pinter, London.

Mark Granovetter (1885). "Economic Action and Social structure: The Problems of Embeddedeness." *American Journal of Sociology* 91(3): 481-510.

Mark Granovetter (1992). "Economic Institutions as Socoal Constructions: A Framework for Analysis." *Acta Sociologica* 35:3-11.

Barbara Grosh, (1992) Public Enterprises in Kenya, Lynne Reiner, Boulder.

Linsu Kim and Richard Nelson (eds) (2000). *Technology, Learning and Innovation: Experiences of the Newly Industrializing Economies*. Cambridge: Cambridge University Press.

Chuk Kyo Kim,(2005). "An Industrial Development Strategy for Indonesia: Lessons from the South Korean Experience." *Journal of the Asia Pacific Economy*. 3: 312-338

Percy S Mistry (2000). "Africa's record of Regional Cooperation and Integration." *Africa Affairs*. 99: 553-573.

Francisco Sagasti (1988). "National Development Planning in Turbulent Times: New approaches and criteria for institutional design." World Development, 16(4): 431-448.

Sanjaya Lall (2000). "Technological Change and Industrialization in the Asia Newly Industrializing Economies: Achievements and Challenges." in Linsu Kim and Richard Nelson (eds) (2000).

Sanjaya Lall (2000). "The Technological Structure and Performance of Developing Country Manufactured Exports, 1985-98" *Oxford Development Studies*, Vol 28, No.3. 2000

Sanjaya Lall (1996). *Learning from the Asian Tigers: Studies in Technology and Industrial Policy*. London: Macmillan.

William Lazonick (2008). "Entrepreneurial Venures and the Developmental State: Lessons from Advanced Economies." *Discussion Paper No. 2008/01*. United Nations University, World Institute for Development Economics Research.

William Lazonick (1991). *Business Organization and the Myth of the Market Economy.* Cambridge: Cambridge University Press

Thandika Mkandawire (2001). "Thinking About Developmental States in Africa." *Cambridge Journal of Economics* **25**(3): 289-314.

Thandika Mkandawire, and Soludo, Charles (1999). *Our Continent Our Future,* CODESRIA Dakar

Thandika Mkandawire and Adebayo O. Olukoshi. (editors.) (1996). *Between Liberalisation and Oppression: The Politics of Structural Adjustment in Africa*, Dakar: CODESRIA Books, 1996

A. H. Molina (1990). "Transputers and Transputer-Based Parallel Computers: Sociotechnical Constituencies and the Build of British-European Capabilities in Information Technologies." *Research Policy* **19**: 309-333.

Adebayo O. Olukoshi (2002). "Governing the African Developmental Process: The Challenge of the New Partnership for Africa's Development (NEPAD)." *A paper presented at the Panel Discussion on New Partnership for Africa's Development (NEPAD)* at the University of Copenhagen, Alexandersalen, 12 September 2002.

Howard Pack (2000). "Research and Development in the Industrial Development Process." in Linsu Kim and Richard Nelson (eds) (2000).

Robert Pollin, Gerald Epstein, James Heintz and Leonce Ndikumanna (2006) An Employment Targetted Plan for South Africa, Edward Elgar Press, Northampton,

Robert Pollin, Mwangi wa Gĩthĩnji, and James Heintz (2008) An Employment Targetted Plan for South Africa, Edward Elgar Press, Northampton,

Yung Whee Rhee, Bruce Ross-Larson and Garry Pursell (1984) *Korea's competitive edge: Managing entry into world markets,* Johns Hopkins University Press, Baltimore, MD,

Amelia U. Santos-Paulino (2008) Interview for UN , http://www.wider.unu.edu/media/press-releases/2008/en_GB/21-08-2008/

Nicholas Stern (1972) *An Appraisal of Tea Production in Small Holdings in Kenya,* OECD, Paris.

Robert Wade (2004) *Governing the Market,* Princeton University Press, Princeton.

UNCTAD (2007) Comtrade Data

UNECA and Africa Union (2006) Assessing Regional Integration in Africa II. Rationalizing Regional Economic Communities. Addis Ababa: UNECA

UNIDO (2003) UNIDO Industrial Report 2002/3, UNIDO, Geneva

US Census Bureau (1999) US Census Data 1999, www.uscensus.gov

World Bank (2009), *Doing Business Report*, World Bank, Washington, DC. *forthcoming*

World Bank (2008), *Migration and Remittances Factbook*, World Bank, Washington, DC.

World Bank (2008), *World Development Indicators*, World Bank, Washington, DC.

World Bank (2008), *Accelerating the Catchup*, World Bank, Washington, DC.

World Bank (2008). Doing Business Report 2008. Washington, DC: The World Bank.

World Bank (XXXX). Africa Infrastructure Diagnostics. Washington, DC: The World Bank.

World Bank (1981). Accelerated Development in Sub-Saharan Africa: An Agenda for Action. Washington, DC: The World Bank.

World Economic Forum (2008). The Global Competitiveness Report 2007-2008. Hampshire: Palgrave MacMillan.

G. Zachary (2008) "Inside Nairobi, The Next Palo Alto, New York Times, Sunday July 20, 2008.

Appendix 1 - The Lal-Weiss-Zhang Index

The Lal-Weiss-Zhang (2006) is calculated as follows:

SI (i)=100*(US(i)-US(min))/(US(max)-US(min)

Where SI is the index and US(i) is the average per capita income of all countries producing the good. US(max) is the average income for the most sophisticated product and US(min) is the average income for least sophisticated. Both these are averages of incomes of countries producing the good.

Appendix 2. Technological Groupings (Based on Lall 2000)

SITC 3 Digit Code	PRIMARY PRODUCTS	Technical Level
001	Live animals	1
011	Meat, fresh, chilled or frozen	1
013	Meat in airtight containers nes & meat preptns	1
022	Milk and cream	1
025	Eggs	1
031	Fish,fresh & simply preserved	1
032	Fish,in airtight containers,nes & fish preptns.	1
041	Wheat including spelt and meslin, unmilled	1
042	Rice	1
043	Barley, unmilled	1
044	Maize corn unmilled	1
045	Cereals,unmilled excl.wheat,rice,barley & maize	1
051	Fruit, fresh, and nuts excl. Oil nuts	1
052	Dried fruit including artificially dehydrated	1
054	Vegetables, roots & tubers, fresh or dried	1
071	Coffee	1
072	Cocoa	1
074	Tea and mate	1
075	Spices	1
081	Feed. Stuff for animals excl.unmilled cereals	1
091	Margarine & shortening	1
121	Tobacco, unmanufactured	1
211	Hides & skins, exc.fur skins undressed	1
212	Fur skins, undressed	1
221	Oil seeds, oil nuts and oil kernels	1
241	Fuel wood & charcoal	1
244	Cork, raw and waste	1
261	Silk	1
262	Wool and other animal hair	1
263	Cotton	1
271	Fertilizers, crude	1
273	Stone, sand and gravel	1
274	Sulphur & unroasted iron pyrites	1
275	Natural abrasives incl.industrial diamonds	1
276	Other crude minerals	1
285	Silver & platinum ores	1
291	Crude animal materials,nes	1
292	Crude vegetable materials,nes	1
331	Petroleum, crude and partly refined	1
341	Gas,natural and manufactured	1
681	Silver and platinum group metals	1
682	Copper	1
683	Nickel	1
684	Aluminium	1
685	Lead	1
686	Zinc	1
687	Tin	1

Appendix 2 (Continued)

SITC 3 Digit Code	Description	Technical Level
	RESOURCE BASE MANUFACTURE - AGRICULTURE	
012	Meat, dried, salted or smoked	2
023	Butter	2
024	Cheese and curd	2
046	Meal and flour of wheat or of meslin	2
047	Meal & flour of cereals,except wheat/meslin	2
048	Cereal preps & preps of flour of fruits & vegs	2
053	Fruit,preserved and fruit preparations	2
055	Vegetables, roots & tubers pres or prepared nes	2
061	Sugar and honey	2
062	Sugar confy, sugar preps. Ex chocolate confy	2
073	Chocolate & other food preptns cont. Cocoa, nes	2
099	Food preparations,nes	2
111	Non alcoholic beverages,nes	2
112	Alcoholic beverages	2
122	Tobacco manufactures	2
231	Crude rubber incl.synthetic & reclaimed	2
242	Wood in the rough or roughly squared	2
243	Wood,shaped or simply worked	2
251	Pulp & waste paper	2
264	Jute	2
265	Vegetable fibres,except cotton and jute	2
421	Fixed vegetable oils, soft	2
422	Other fixed vegetable oils	2
431	Anim./veg. Oils & fats,processed,and waxes	2
621	Materials of rubber	2
631	Veneers,plywood boards & other wood,worked,nes	2
632	Wood manufactures,nes	2
633	Cork manufactures	2
641	Paper and paperboard	2

Appendix 2 (Continued)

SITC 3 Digit Code	Description	Technical Level
	RESOURCE BASE MANUFACTURE - OTHER	
281	Iron ore & concentrates	3
282	Iron and steel scrap	3
283	Ores & concentrates of non ferrous base metals	3
284	Non ferrous metal scrap	3
286	Ores & concentrates of uranium & thorium	3
321	Coal,coke & briquettes	3
332	Petroleum products	3
411	Animal oils and fats	3
514	Other inorganic chemicals	3
515	Radioactive and associated materials	3
521	Crude chemicals from coal,petroleum and gas	3
531	Synth.organic dyestuffs,natural indigo & lakes	3
532	Dyeing & tanning extracts,synth.tanning mat.	3
551	Essential oils, perfume and flavour materials	3
629	Articles of rubber,nes	3
661	Lime,cement & fabr.bldg.mat. Ex glass/clay mat	3
662	Clay and refractory construction materials	3
663	Mineral manufactures, nes	3
664	Glass	3
667	Pearls and precious and semi precious stones	3
688	Uranium and thorium and their alloys	3
689	Miscell.non ferrous base metals	3

Appendix 2 (Continued)

SITC 3 Digit Code	Description	Technical Level
	TEXTILES AND FOOTWEAR	
267	Waste materials from textile fabrics, incl.rags	4
611	Leather	4
612	Manuf.of leather or of artif.or reconst.leather	4
613	Fur skins, tanned or dressed, including dyed	4
651	Textile yarn and thread	4
652	Cotton fabrics,woven ex.narrow or spec.fabrics	4
654	Tulle, lace, embroidery, ribbons, trimmings	4
655	Special textile fabrics and related products	4
656	Made up articles,wholly or chiefly of text.mat.	4
657	Floor coverings, tapestries, etc.	4
831	Travel goods, handbags and similar articles	4
841	Clothing except fur clothing	4
842	Fur clothing and articles of artificial fur	4
851	Footwear	4
	OTHER LOW TECHNOLOGY MANUFACTURES	
642	Articles of paper, pulp, paperboard	5
665	Glassware	5
666	Pottery	5
673	Iron and steel bars,rods,angles,shapes,sections	5
674	Universals,plates and sheets of iron or steel	5
675	Hoop and strip of iron or steel	5
676	Rails & rlwy track constr mat. Of iron or steel	5
677	Iron and steel wire, excluding wire rod	5
679	Iron steel castings forgings unworked, nes	5
691	Finished structural parts and structures, nes	5
692	Metal containers for storage and transport	5
693	Wire products ex electric & fencing grills	5
694	Nails,screws,nuts,bolts,rivets and sim.articles	5
695	Tools for use in the hand or in machines	5
696	Cutlery	5
697	Household equipment of base metals	5
698	Manufactures of metal, nes	5
821	Furniture	5
891	Musical instruments,sound recorders and parts	5
893	Articles of artificial plastic materials nes	5
894	Perambulators,toys,games and sporting goods	5
895	Office and stationery supplies, nes	5
897	Jewellery and gold/silver smiths wares	5
899	Manufactured articles, nes	5

Appendix 2 (Continued)

SITC 3 Digit Code	Description	Technical Level
	MEDIUM TECHNOLOGY - AUTOMOBILES	
732	Road motor vehicles	6
733	Road vehicles other than motor vehicles	6
	MEDIUM TECHNOLOGY - PROCESS	
266	Synthetic and regenerated artificial fibres	7
512	Organic chemicals	7
513	Inorg.chemicals elems.,oxides,halogen salts	7
533	Pigments, paints, varnishes & related materials	7
553	Perfumery, cosmetics, dentifrices, etc.	7
554	Soaps,cleansing & polishing preparations	7
561	Fertilizers manufactured	7
571	Explosives and pyrotechnic products	7
581	Plastic materials,regenerd.cellulose & resins	7
599	Chemical materials and products,nes	7
653	Text fabrics woven ex narrow, spec, not cotton	7
671	Pig iron, spiegeleisen, sponge iron etc	7
672	Ingots & other primary forms of iron or steel	7
678	Tubes,pipes and fittings of iron or steel	7
731	Railway vehicles	7
862	Photographic and cinematographic supplies	7
	MEDIUM TECHNOLOGY - ENGINEERING	
711	Power generating machinery, other than electric	8
712	Agricultural machinery and implements	8
715	Metalworking machinery	8
717	Textile and leather machinery	8
719	Machinery and appliances non electrical parts	8
723	Equipment for distributing electricity	8
725	Domestic electrical equipment	8
726	Elec.apparatus for medic.purp.,radiological ap.	8
735	Ships and boats	8
812	Sanitary,plumbing,heating & lighting fixtures	8
864	Watches and clocks	8
951	Firearms of war and ammunition therefor	8
	HIGH TECHNOLOGY ELECTRIC	
714	Office machines	9
722	Electric power machinery and switchgear	9
724	Telecommunications apparatus	9
729	Other electrical machinery and apparatus	9
	HIGH TECHNOLOGYOTHER	
541	Medicinal & pharmaceutical products	10
718	Machines for special industries	10
734	Aircraft	10
861	Scientific,medical,optical,meas./contr.instrum.	10

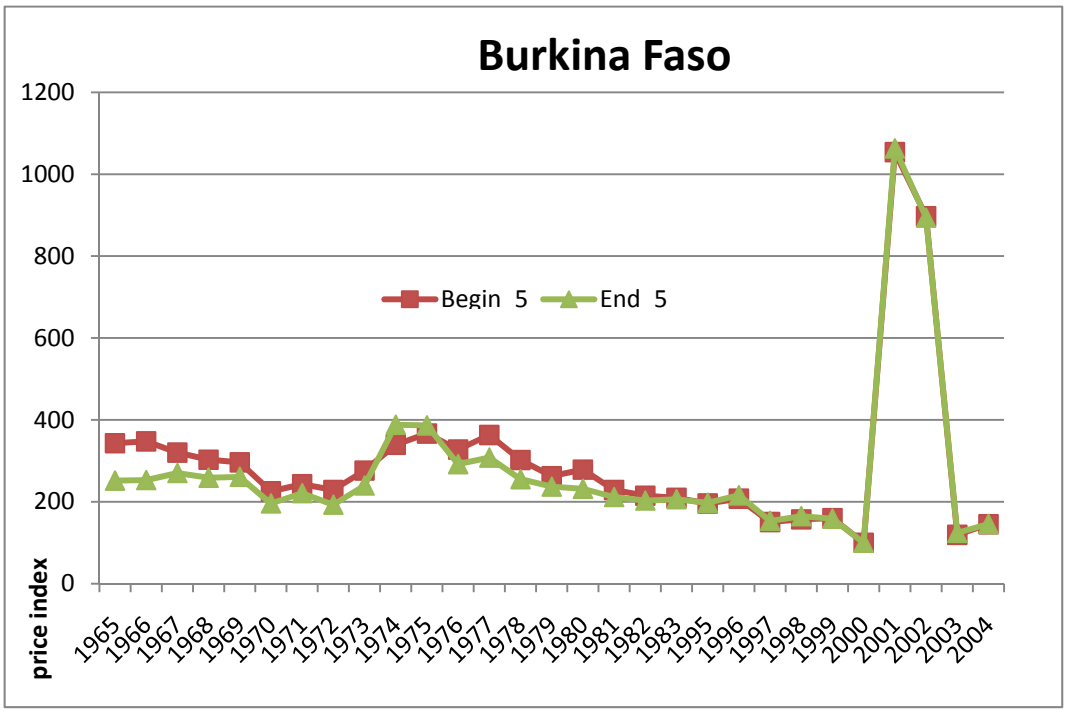
Appendix 2 (Continued)

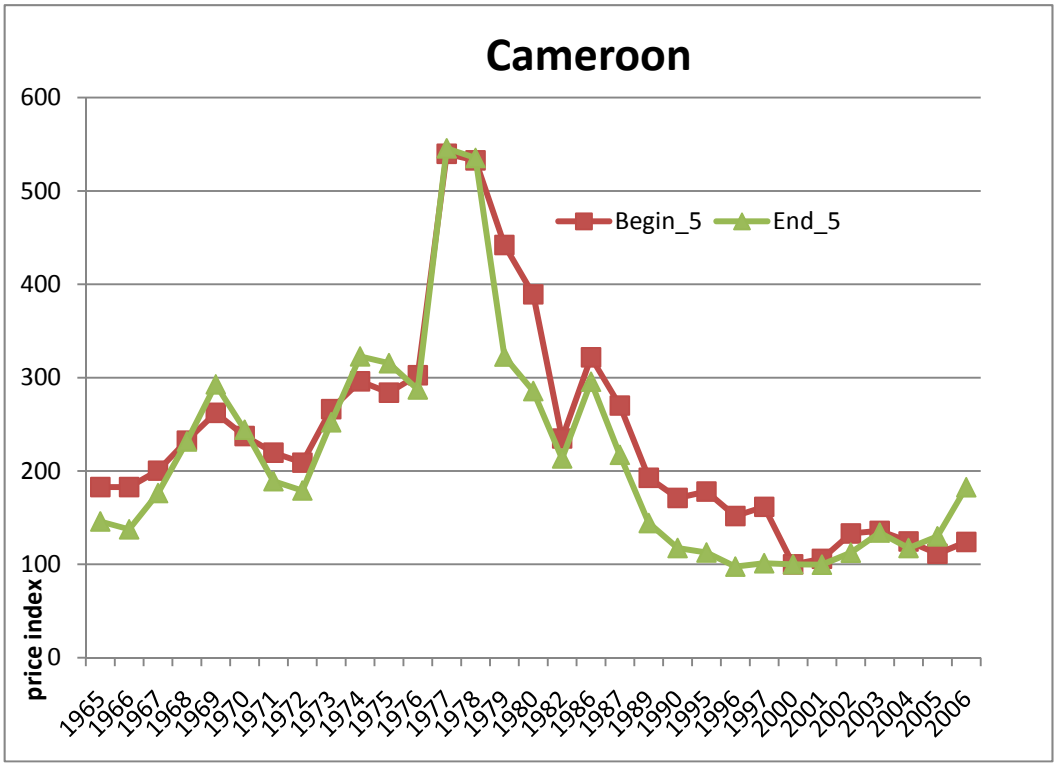
SITC 3 Digit Code	Description	Technical Level
	NOT CLASSIFIED	
351	Electric energy	99
863	Developed cinematographic film	99
892	Printed matter	99
896	Works of art,collectors pieces and antiques	99
911	Postal packages not classified accord.to kind	99
931	Special transactions not classd.accord.to kind	99
941	Animals, nes incl.zoo animals,dogs and cats	99
961	Coin other than gold ,not being legal tender	99

Appendix 3 - African Countries in Sample by year

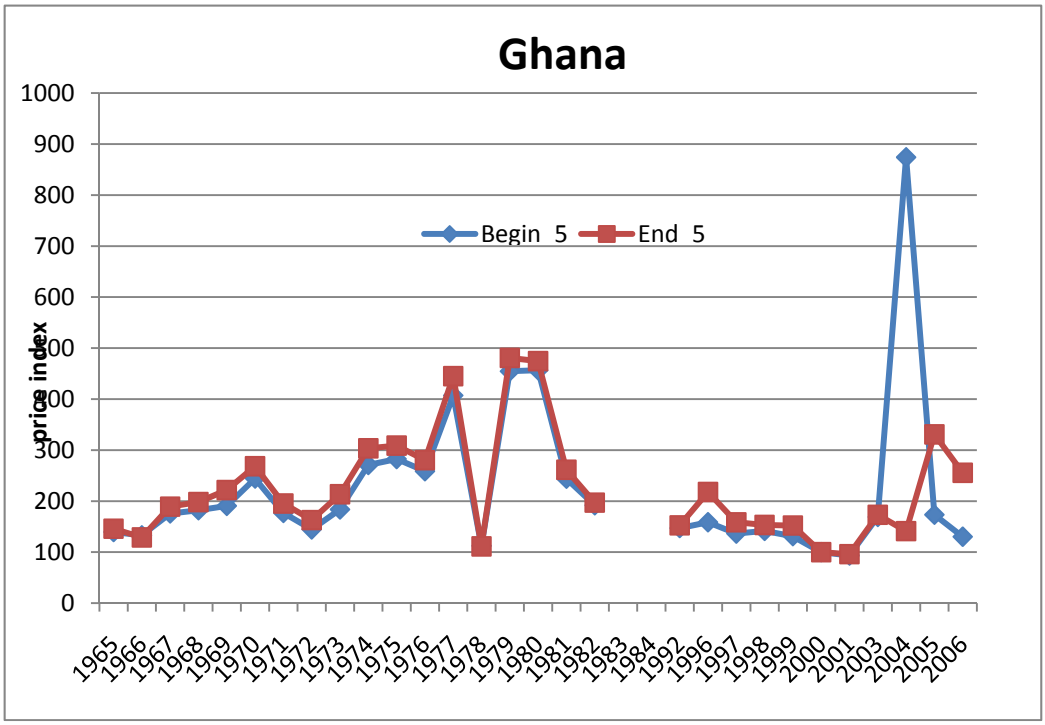
1965/66	1970/71	1980/81	1990/91	2000/1	2005/6
Benin	Angola	Angola	Angola	Benin	Benin
Burkina Faso	Benin	Benin	Cameroon	Botswana	Botswana
Burundi	Burkina Faso	Burkina Faso	Djibouti	Burkina Faso	Burundi
Cameroon	Cameroon	Cameroon	Ethiopia/Eritrea	Burundi	Cameroon
Central African	Central African	Cape Verde	Ghana	Cameroon	Cape Verde
Chad	Chad	Central African	Kenya	Cape Verde	Central African
Congo, Dem. Rep.	Congo Dem. Rep.	Congo, Rep.	Madagascar	Central African	Cote dIvoire
Congo, Rep.	Congo Rep.	Cote d'Ivoire	Malawi	Comoros	Ethiopia
Cote d'Ivoire	Cote d'Ivoire	Gabon	Mali	Cote dIvoire	Gabon
Gabon	Ethiopia/Eritrea	Gambia, The	Mauritius	Eritrea	Gambia, The
Ghana	Gabon	Ghana	Nigeria	Ethiopia	Ghana
Madagascar	Gambia The	Kenya	S.A.C.U	Gabon	Kenya
Malawi	Ghana	Liberia	Senegal	Gambia, The	Madagascar
Mali	Guinea-Bissau	Madagascar	Seychelles	Ghana	Malawi
Mauritania	Liberia	Malawi	Zimbabwe	Guinea	Mali
Niger	Madagascar	Mali		Kenya	Mauritania
Nigeria	Malawi	Niger		Lesotho	Mauritius
Republic	Mali	Nigeria		Madagascar	Mozambique
Senegal	Mauritania	S.A.C.U		Malawi	Namibia
Somalia	Mauritius	Senegal		Mali	Niger
Sudan	Niger	Seychelles		Mauritania	Nigeria
Togo	Nigeria	Somalia		Mauritius	Republic
Zambia	Republic	Sudan		Mozambique	Rwanda
	Senegal	Tanzania		Namibia	Sao Tome and Principe
	Seychelles	Togo		Niger	Senegal
	Somalia			Nigeria	Seychelles
	Sudan			Republic	South Africa
	Togo			Rwanda	Sudan
	Zambia			Sao Tome and Principe	Swaziland
				Senegal	Tanzania
				South Africa	Togo
				Sudan	Uganda
				Swaziland	Zambia
				Tanzania	Zimbabwe
				Togo	
				Uganda	
				Zambia	
				Zimbabwe	

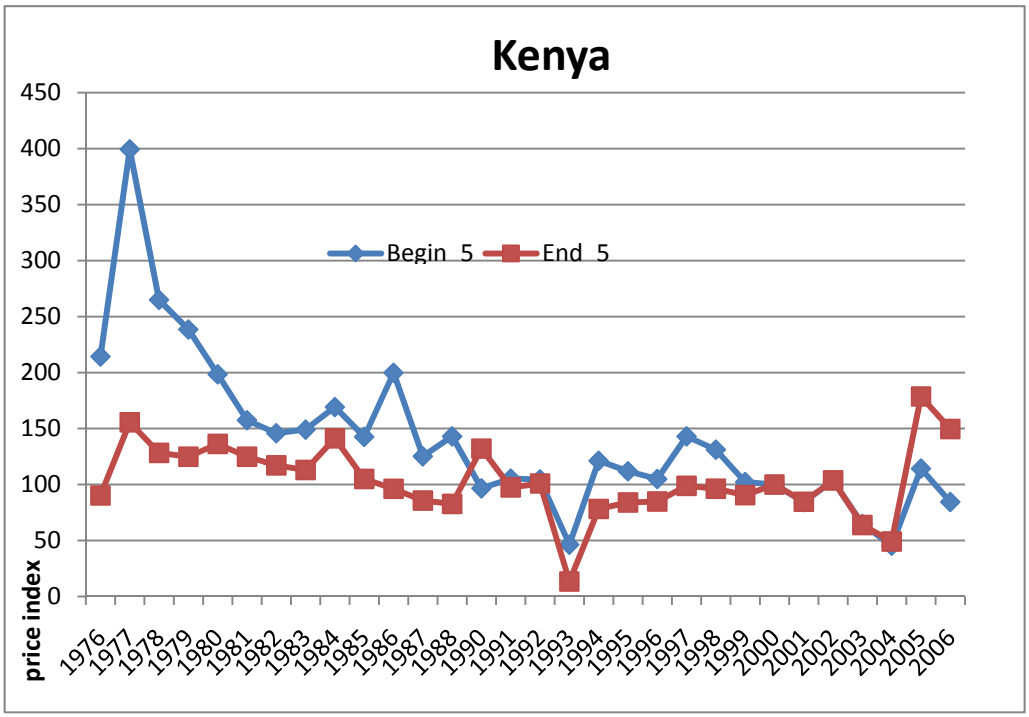
Appendix 4 – Price Indices Top Five Exports by Country



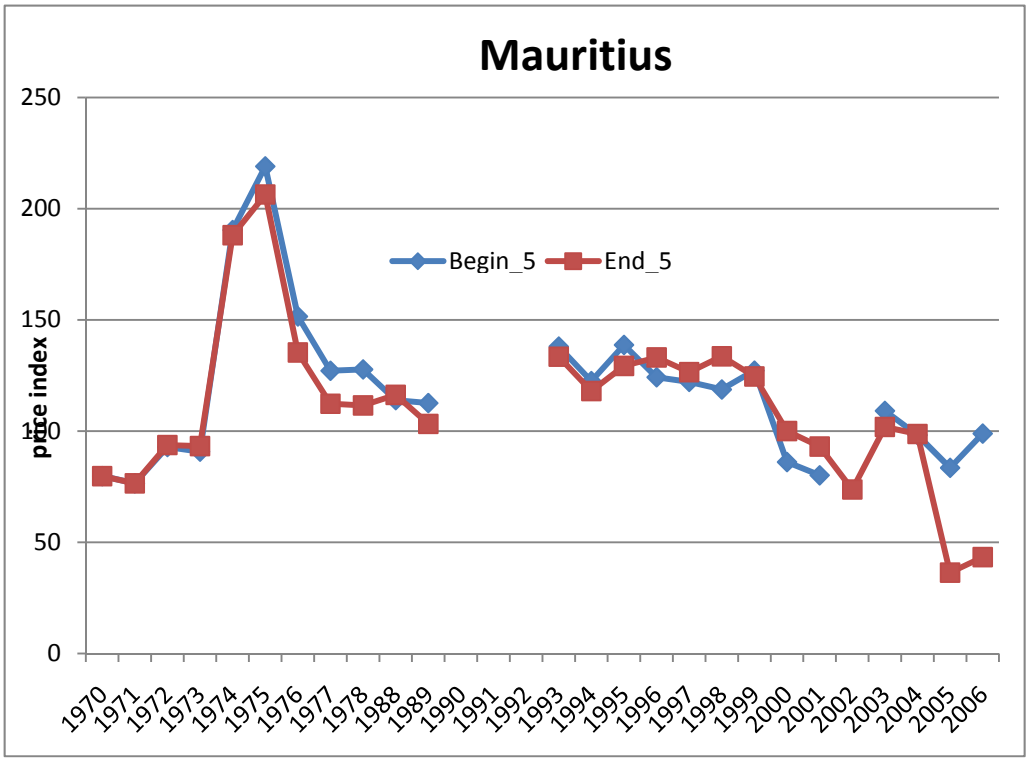


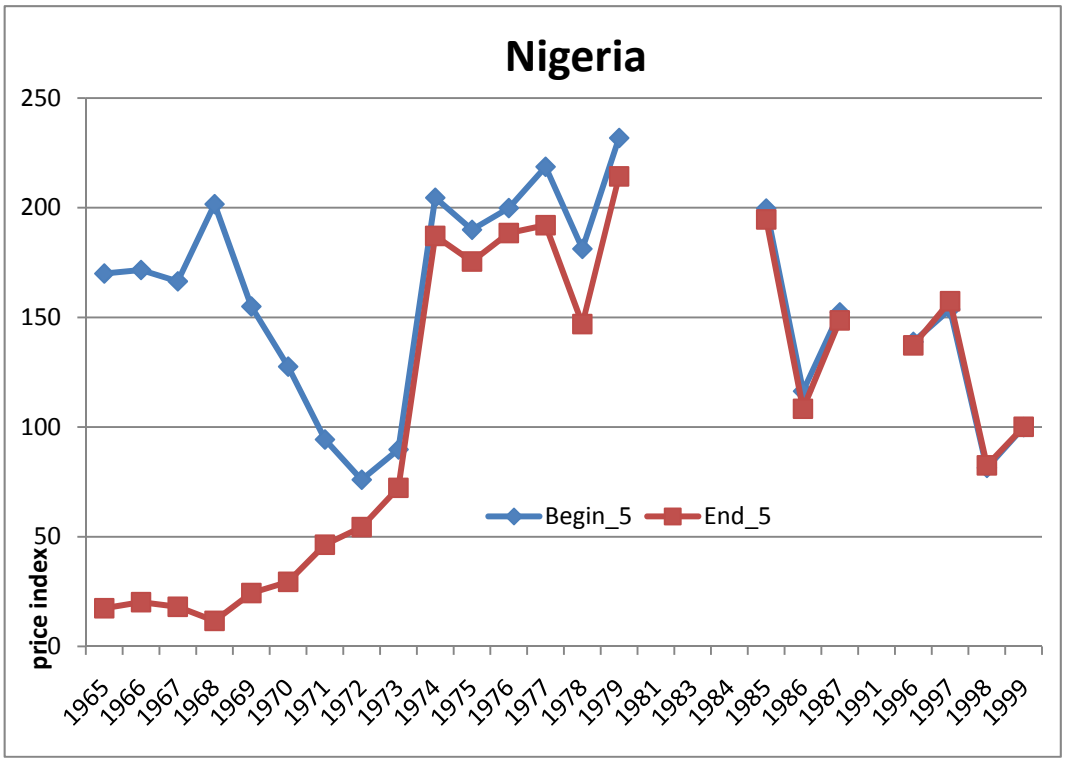
Appendix 4- Price Indices (cont.)



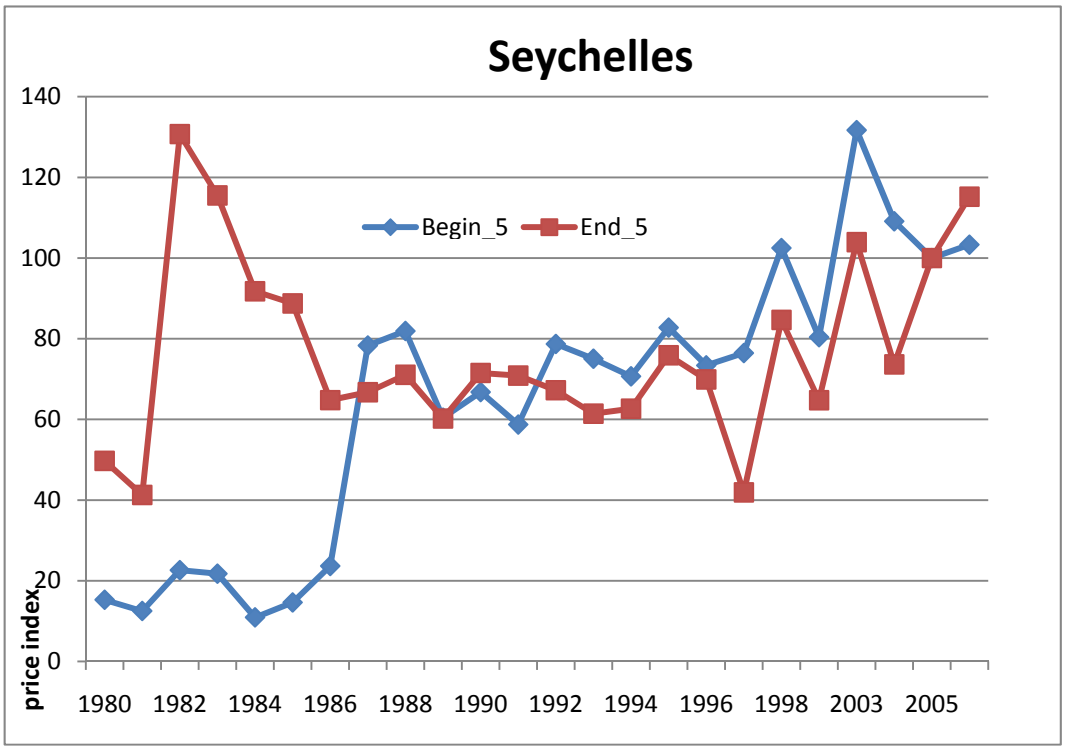


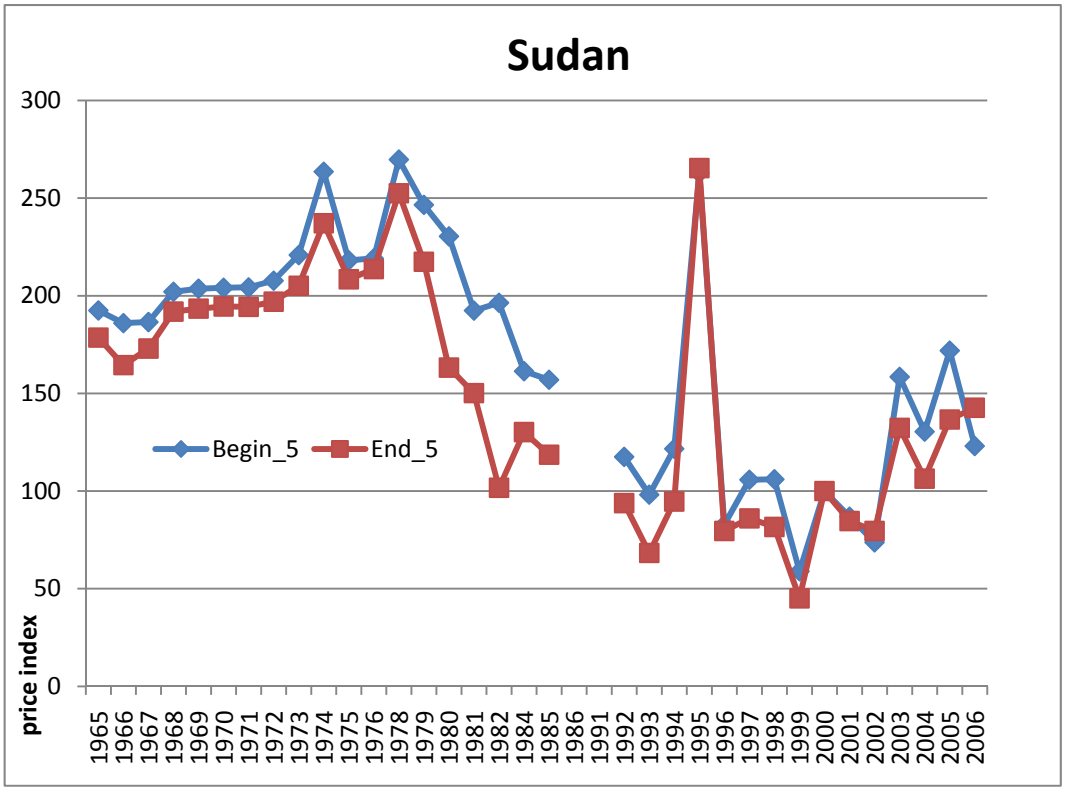
Appendix 4- Price Indices (cont.)



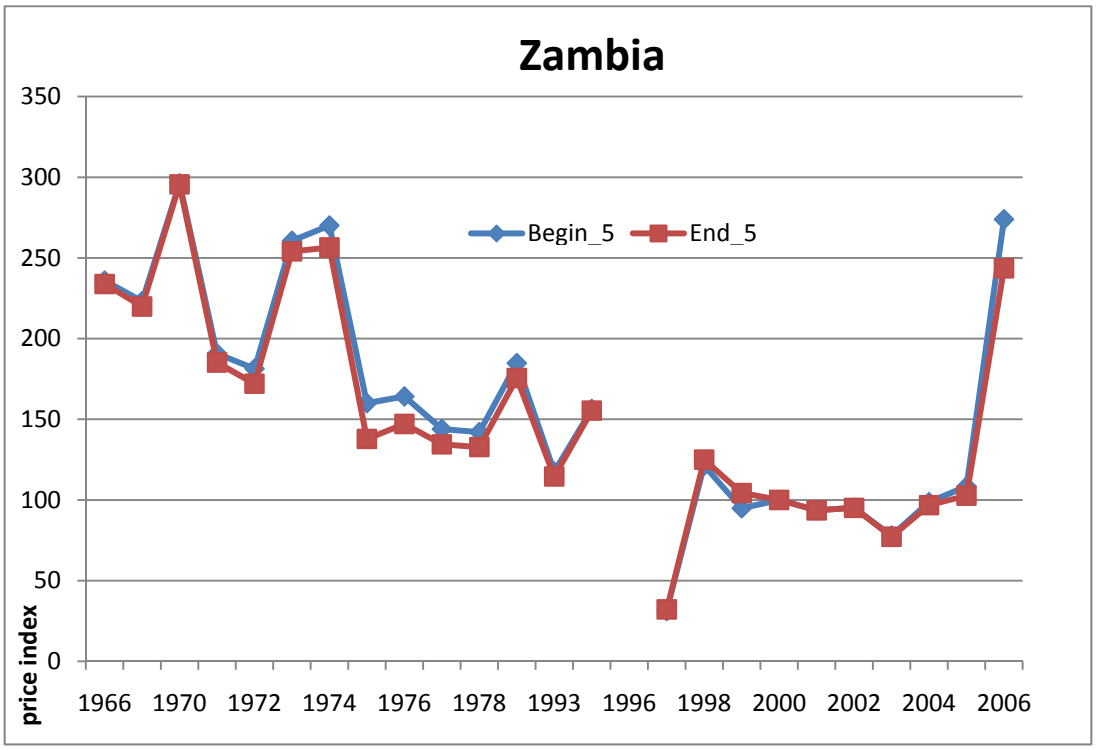


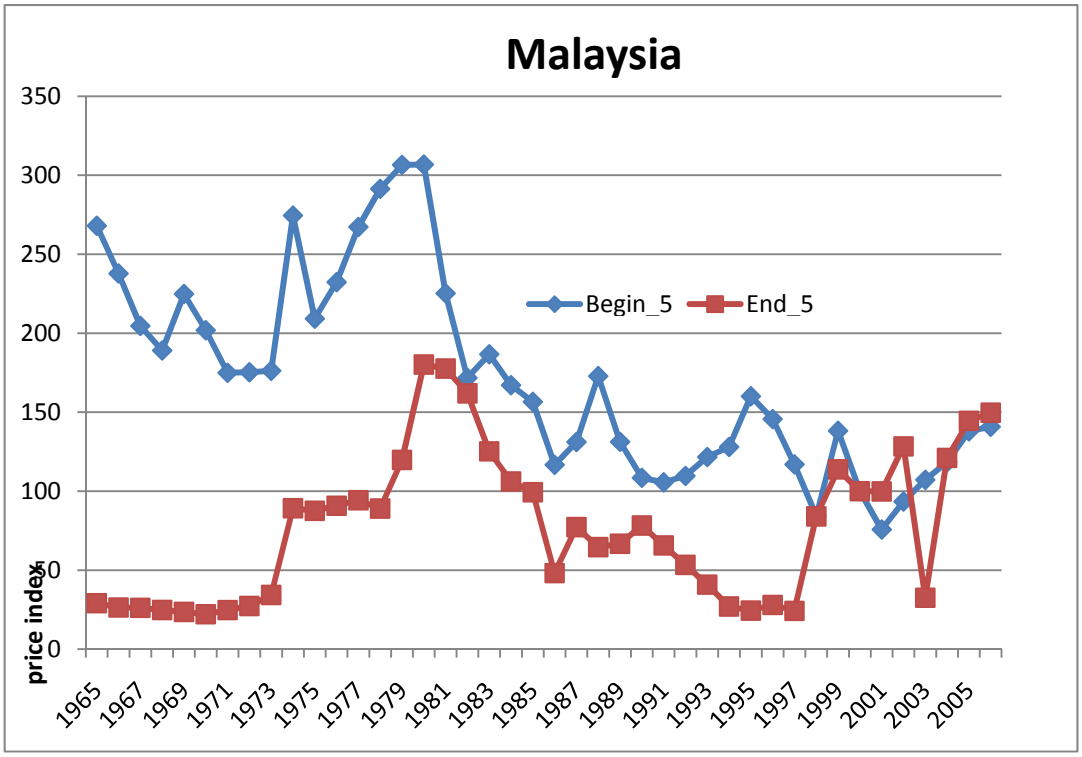
Appendix 4- Price Indices (cont.)





Appendix 4- Price Indices (cont.)


Zambia
350
300
250
200
150
100
50
0
price index
Begin_5
End_5
1966
1970
1972
1974
1976
1978
1993
1996
1998
2000
2002
2004
2006


Malaysia
350
300
250
200
150
100
50
0
price index
Begin_5
End_5
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005

********** END**********